SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Subsequent Environmental Assessment for:

Proposed Amended Rule 1168 – Adhesive and Sealant Applications

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PREFACE

This document constitutes the Final Subsequent Environmental Assessment (EA) for Proposed Rule 1168 – Adhesive and Sealant Applications. A Draft SEA was released for a 45-day public review and comment period from October 13, 2004, to November 30, 2004. One comment letter was received from the public and is included for completeness in Appendix C. During the review and comment period for the Draft SEA, PAR 1168 was modified to delay the VOC content limit requirement of 250 grams of VOC per liter for two years from January 1, 2005, to January 1, 2007. This delay was estimated to forego 414 pounds of VOC per day. This modification was determined to be significant and require recirculation pursuant to CEQA Guidelines §15088.5. Therefore, the Draft SEA was modified and released as a Revised Draft SEA. The Revised Draft SEA included a clear statement that the Governing Board may choose all or part of any of the alternatives even if the alternative or portion of the alternative may generate environmental impacts that are significantly worse than those proposed in the project, as long as the impact is evaluated as part of the alternative analysis. The Revised Draft SEA was released for a 45-day public review and comment period from November 5, 2004, to December 21, 2004. No comment letters were received from the public on the Revised Draft SEA.

After to the release of the revised draft subsequent EA, PAR 1168 was modified to delay the implementation of the 550 gram per liter final VOC content limit requirement for PVC and CPVC primer and the 325 gram per liter final VOC content limit requirement for ABS Welding from January 1, 2005, to July 1, 2005. The delay will allow manufactures to obtain National Sanitation Foundation (NSF) commercial approval. By delaying the new VOC content limit requirements for PVC/CPVC, 0.51 ton (1,024 pounds) per day of VOC emission reductions would be foregone between January 1, 2005 and July 1, 2005. The 0.52 ton (1,024 pounds) per day of VOC emission reductions foregone between January 1, 2005 and July 1, 2005 are greater than the SCAQMD significance threshold of 55 pounds of VOC per day; therefore, the delay is a significant change.

The delay of the PVC and CPVC primer and ABS welding VOC content limit requirements from January 1, 2005, to July 1, 2005 is considered to be within the scope of the analysis of the environmental impacts resulting from implementing Alternative C. The Revised Draft SEA clearly presented Alternative C and the adverse environmental impacts from choosing Alternative C. Therefore, it was not necessary to recirculate Revised Draft SEA, in this situation, since the adverse environmental impacts of Alternative C were fully disclosed to the public in the Revised Draft SEA.

The Revised Draft EA contained the November 4, 2004 version of PAR 1168. Modifications have been made to the proposed Draft EA in accordance with changes to the Staff Report and Proposed Rule for clarity and continuity.

Aside from the modifications to delay PVC and CPVC primer and ABS welding compliance date discussed in the previous paragraph, no modifications alter any conclusions reached in the Draft EA, nor provide new information of substantial importance relative to environmental impacts in the draft document. For this reason and the fact that modifiying the compliance date for PVC and CPVC primers and ABS welding adhesives was addressed as part of the analysis of Alternative C, recirculation of the Draft EA pursuant to California Environmental Quality Act (CEQA) Guidelines §15088.5 is not required.

To facilitate identifying modifications to the document, modifications to the document are included as underlined text and text removed from the document is indicated by ~~strikethrough~~.

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CHAPTER 1

EXECUTIVE SUMMARY

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977[1] as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the district[2]. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP[3]. The 2003 AQMP concluded that major reductions in emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx) are necessary to attain the air quality standards for ozone and particulate matter (PM10).

With stationary and mobile sources being the major producers of VOC emissions, which contribute to ozone formation, reducing the quantity of VOC emissions within the jurisdiction of the SCAQMD has been an on-going priority and effort by the SCAQMD. Because materials used in adhesive and sealant operations are considered by SCAQMD as one potential source where VOC emission reductions can be achieved, in April 1989, Rule 1168 – Adhesive and Sealant Applications, was adopted. Since its adoption, Rule 1168 has been amended twelve times, with the most recent amendments occurring in 2003.

Under the current version of Rule 1168, emissions are controlled by limiting the VOC content, measured in grams per liter, of the adhesives and sealants used and applied within the SCAQMD's jurisdiction. Rule 1168 also prohibits the use of certain toxic chemicals in adhesives and sealants.

A draft Subsequent Environmental Assessment (SEA) for the proposed project was released for a 45-day public review period on October 13, 2004. During the 45-day public review period, it was determined that the final VOC limit for the top and trim adhesive category could not be met by the existing January 1, 2005 effective date. PAR 1168 was modified to delay the VOC content requirement for top and trim adhesives for two years, effective January 1, 2007. This modification ~~would make~~ made an existing significant adverse impact substantially worse; therefore, requiring recirculation of the 2004 Draft SEA as a Revised Draft SEA. ~~The following describes the amendments proposed to the Rule evaluated by the 2004 Draft SEA and a revised evaluation that includes a two-year extension for the final VOC content limit for top and trim adhesives~~:

After the release of the Revised Draft SEA, PAR 1168 was modified to delay the implementation of a proposed VOC content limit requirements of 550 grams per liter for PVC/CPVC and 325 grams per liter for ABS welding from January 1, 2005 to July 1, 2005. By delaying the new VOC content limit requirements for PVC/CPVC, 0.51 ton (1,024 pounds) per day of VOC emission reductions would be foregone between January 1, 2005 and July 1, 2005.

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health & Safety Code, §§40400-40540).
[2] Health & Safety Code, §40460 (a).
[3] Health & Safety Code, §40440 (a).

The delay of the PVC and CPVC primer and ABS welding VOC content limit requirements from January 1, 2005, to July 1, 2005 is considered to be within the scope of the analysis of the environmental impacts resulting from implementing Alternative C. The Revised Draft SEA clearly presented Alternative C and the adverse environmental impacts from choosing Alternative C. The Revised Draft SEA also clearly states that the Governing Board can choose all or part of any of the alternative even if the alternative or portion of the alternative may generate environmental impacts that are significantly worse than those proposed in the project as long as these impacts were disclosed in the CEQA document circulated for public review. Therefore, since the modifications to PAR 1168 made subsequent to the release of the Revised Draft EA are considered to be within the scope of the analysise of the project alternatives, the Governing Board may adopt this modification or any other alternative or portion of an alternative that may generate environmental impacts that are significantly worst than those proposed in the project.

One comment letter was received on the Draft SEA. In the comment letter, the Southern California Association of Governments (SCAG) states that it has determined that PAR 1168 is not regionally significant per SCAG's Intergovernmental Review (IGR) Criteria and CEQA Guidelines. This letter and a response is included in Appendix C for completeness. No comment letters were received on the Revised Draft SEA.

~~Draft Subsequent Environmental Assessment~~ Proposed Project

The following summarizes the main components of PAR 1168~~ On October 13, 2004, a Draft SEA was released that proposed to amend Rule 1168 with the following~~:

- Delay the January 1, 2005 Final VOC limit of 250 grams of VOC per liter compliance date for two years from January 1, 2005, to January 1, 2007. Consequently, the interim VOC limit of 540 grams of VOC per liter for top and trim adhesives would be extended until January 1, 2007.
- Rescind the January 1, 2005, prohibition of methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications. The proposed amended rule would allow the use of solvent welding formulations containing methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications provided the concentration of methylene chloride does not exceed 60 percent by weight and the purchase of all methylene chloride welding products for hard sheet plastic does not exceed 20 gallons per calendar year at a single facility.
- Rescind the January 1, 2005, 285 grams per liter VOC content limit requirement for solvent cements used to weld polyvinyl chloride (PVC) plastic pipes and fittings, and instead keep the PVC welding VOC content limit requirement at the interim 510 grams per liter.
- Rescind the January 1, 2005, 270 grams per liter VOC content limit requirement for solvent cements used to weld chlorinated polyvinyl chloride (CPVC) plastic pipes and fittings, and instead keep the CPVC welding VOC content limit requirement at the interim 490 grams per liter.
- Rescind the January 1, 2005 VOC content limit requirement of 250 grams per liter, and extend the interim VOC content limit requirement for adhesive primers for plastic of 650 grams per liter from the January 1, 2005 effective date to July 1, 2005. On July, 1, 2005,

reduce the VOC content limit requirement for these primers from 650 grams per liter to 550 grams per liter. ~~Replace the January 1, 2005 VOC content limit requirement for PVC/CPVC primers of 250 grams per liter with a VOC content limit requirement of 550 grams per liter. This new 550 gram per liter VOC content limit is lower that the existing PVC/CPVC primers VOC content limit of 600 grams per liter.~~

- Lower the acrylonitrile-butadiene-styrene (ABS) welding VOC content limit requirement to 325 grams per liter which is currently at 400 grams per liter on July 1, 2005.

~~Based on the volume of affected adhesives currently used, the amount of VOC emission reductions permanently foregone presented in the 2004 Draft SEA was 0.61 ton (1,220 pounds) per day. These reductions permanently foregone exceed the SCAQMD's daily VOC significance threshold of 55 pounds per day.~~

~~**Revision to the Draft Subsequent Environmental Assessment**~~

~~Subsequent to the release of the 2004 Draft SEA, top and trim adhesive manufacturers presented evidence that the 250 grams of VOC per liter top and trim adhesives do not meet performance standards required by the industry. Therefore, PAR 1168 was modified to delay the Final VOC limit of 250 grams of VOC per liter compliance date for two years from January 1, 2005, to January 1, 2007. Consequently, the interim VOC limit of 540 grams of VOC per liter for top and trim adhesives would be extended until January 1, 2007.~~

~~The 2003 Final SEA estimated that 0.21 ton per day (414 pounds per day) of VOC emissions reductions were delayed by replacing the Final VOC limit of 250 gram of VOC per liter with the interim VOC limit of 540 grams of VOC per liter. Therefore, extending the interim VOC limits until January 1, 2007 would delay an additional 0.21 ton per day (414 pounds per day) of VOC emissions reductions until January 1, 2007.~~

~~The additional 0.21 ton per day (414 pounds per day) of VOC emissions reductions delayed is considered to be substantial increase in the severity of an existing significant adverse air quality impact because it exceeds the SCAQMD's daily VOC significance threshold of 55 pounds per day. Therefore, the revision to delay the top and trim adhesive final VOC limit until January 1, 2007 is determined to be a significant change requiring recirculation, because it is a substantial increase in the severity of an environmental impact (CEQA Guidelines §15088.5(a)(2).~~

Emissions Reductions Delayed and Foregone

~~The amount of VOC emission reductions permanently foregone from the 2004 Draft SEA and the revised VOC emission reductions delayed from extending the interim VOC limit for top and trim until January 1, 2007 would be 1,640 pounds (0.82 ton) per day, which would exceed the SCAQMD's daily VOC significance threshold of 55 pounds per day. After January 1, 2007, the final VOC content limit for top and trip adhesive would become effective and the amount of VOC emission reductions permanently foregone would be 0.61 ton (1,220 pounds) per day.~~

Based on the volume of affected adhesives currently used, the amount of VOC emission reductions foregone on January 1, 2005 would be 1.05 ton (2,096 pounds) per day on January 1, 2005. On July 1, 2005, the amount of VOC emission reductions foregone would be 0.81 ton (2,096 pounds) per day, when the new VOC content limit requirements for PVC/CPVC primers and ABS welding become effective. On January 1, 2007, the VOC emission reductions foregone would be 0.61 ton (1,206 pounds) per day, when the Final VOC content limit requirement for top and trim adhesives becomes effective. These reductions foregone exceed the SCAQMD's daily VOC significance threshold of 55 pounds per day.

~~Pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code §§21000 et seq.), this Revised Draft Final SEA was prepared because the currently proposed project is considered to be a modification of the amendments to Rule 1168 approved by the Governing Board on June 7, 2002 and October 3, 2003, respectively. A Draft SEA is was appropriate because the project is a modification of a previously adopted project. A Revised Draft SEA is was appropriate to evaluate modifications to the previously proposed project, which is expected to generate additional adverse environmental impacts from extending the interim VOC limits for top and trim adhesives until January 1, 2007, since the proposed changes are considered a significant change requiring recirculation.~~

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The proposed amendments to Rule 1168 are a "project" as defined by CEQA (California Public Resources Code §21080.5). SCAQMD is the lead agency for the proposed project and has prepared appropriate an environmental analysis pursuant to its certified regulatory program (SCAQMD Rule 110). California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110.

CEQA requires that the potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared a ~~Revised Draft~~ Final SEA to address the potential environmental impacts associated with the currently proposed amendments to Rule 1168. The preparation of a Draft SEA ~~is~~ was necessary because the proposed project is a modification to previously approved projects, the June 2002 and October 2003 amendments to Rule 1168, for which a 2002 Final EA and 2003 Final SEA were prepared and certified by the Governing Board on June 7, 2002 and October 3, 2004, respectively.

Further, in accordance with CEQA Guidelines §15162 a Draft SEA was prepared because the modifications to the previously approved project consist of substantial changes which will require major revisions to the previously certified 2002 Final EA and 2003 Final SEA due to a substantial increase in the severity of previously identified significant effects.

Subsequent to the release of the 2004 Draft SEA, PAR 1168 was revised to include a provision to delay the January 1, 2005 VOC content limit requirement for top and trim adhesives for two years until January 1, 2007. The revision would delay an additional 414 pounds of VOC emission reductions per day, which exceeds the VOC significance threshold of 55 pounds of VOC per day. This modification and associated air quality impacts constitutes substantial new information requiring recirculation of the 2004 Draft SEA as a Revised Draft SEA pursuant to CEQA Guidelines §15088.5(a)(2). ~~This~~ The Revised Draft SEA ~~is~~ was intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with detailed information on the environmental effects of the proposed project; and, (b) to be used as a tool by decision makers to facilitate decision making on the proposed project.

After the release of the Revised Draft SEA, PAR 1168 was modified to delay the implementation of a proposed VOC content limit requirements of 550 grams per liter for PVC/CPVC and 400 grams per liter from January 1, 2005 to July 1, 2005. By delaying the proposed VOC content limit requirements for PVC/CPVC, 0.51 ton (1,024 pounds) per day of VOC emission reductions would be foregone between January 1, 2005 and July 1, 2005. These VOC emissions are considered foregone, because the existing Rule 1168 VOC content limit requirement of 250 grams per liter for PVC/CPVC primers was expected to become effective on January 1, 2005. In addition, 0.11 ton (220 pounds) per day of VOC emissions reductions would begin on July 1, 2005, instead of on January 1, 2005, as proposed in the Revised Draft SEA. The 0.11 ton (220 pounds) per day of VOC emissions reductions are not considered foregone, because the proposed VOC content limit is not a current requirement, as it had not previously been presented to, or adopted by the Governing.

While the emissions reductions foregone from the delay of PVC and CPVC primer and ABS welding VOC content limit requirements from January 1, 2005, to July 1, 2005 is a modification to the previously proposed project, this modification is considered to be within the scope of the analysis of the environmental impacts resulting from implementing Alternative C. The Revised Draft SEA clearly presented Alternative C and the adverse environmental impacts from choosing Alternative C. The Revised Draft SEA also clearly states that the Governing Board can choose all or part of any of the alternative even if the alternative or portion of the alternative may generate environmental impacts that are significantly worst than those proposed in the project as long as these impacts were disclosed in the CEQA document circulated for public review. Therefore, the Governing Board may adopt this modification or any other alternative or portion of an alternative that may generate environmental impacts that are significantly worst than those proposed in the project.

CEQA DOCUMENTATION FOR RULE 1168 – ADHESIVE AND SEALANT APPLICATIONS

This ~~Revised Draft~~ Final SEA is a comprehensive environmental document that analyzes the environmental impacts from the currently proposed amendments to Rule 1168. SCAQMD rules, as ongoing regulatory programs, have the potential to be revised over time due to a variety of factors (e.g., regulatory decisions by other agencies, new data, and lack of

progress in advancing the effectiveness of control technologies to comply with requirements in technology forcing rules, etc.). The other documents which comprise the CEQA record for the currently proposed amendments to Rule 1168, include the 2004 Revised Draft Subsequent Environmental Assessment (October 2004), the 2003 Final Subsequent Environmental Assessment for Proposed Amended Rule 1168 (September 2003), the 2002 Final Environmental Assessment for Proposed Amended Rule 1168 (May 2002), and the Notice of Preparation/Initial Study (December 2001). The following is a summary of the contents of these documents.

Revised Draft Subsequent Environmental Assessment (SEA) for the Proposed Amendments to Rule 1168, November 4, 2004 (SCAQMD No. 0041404JKK): A Revised Draft SEA was prepared to address VOC emission reductions foregone from postponing the final VOC content limit for top and trim adhesives until January 1, 2007. In addition, the Revised Draft SEA clearly states that the Governing Board can choose all or part of any of the alternative even if the alternative or portion of the alternative may generate environmental impacts that are significantly worst than those proposed in the project as long as these impacts were disclosed in the document circulated for public review.. The Revised Draft SEA was released for a 45-day public review period from November 5, 2004 to December 21, 2004.

Draft Subsequent Environmental Assessment (SEA) for the Proposed Amendments to Rule 1168, October 13, 2004 (SCAQMD No. 0041012JKK): A Draft SEA for the proposed amendments to Rule 1168 was released for a 45-day public review period from October 13, 2004, to November 30, 2004. The analysis showed that there were potential adverse environmental effects that may result from implementing the proposed amendments. The Draft SEA identified "air quality" as the only area that may be adversely affected by the proposed project. One comment letter was received on the Draft SEA. After circulation of the Draft SEA, it was determined that the top and trim adhesives would not be able to meet the January 1, 2005 VOC content limits. Therefore, ~~this~~ a Revised Draft SEA was prepared, which includes VOC emission reductions delayed from postponing the final VOC content limit for top and trim adhesives until January 1, 2007, and recirculated for public review.

Final Subsequent Environmental Assessment (SEA) for the Proposed Amendments to Rule 1168, September 2003 (SCAQMD No. 080703BAR): A Draft EA for the proposed amendments to Rule 1168 was released for a 45-day public review period from August 8, 2003, to September 23, 2003. The analysis showed that there were potential adverse environmental effects that may result from implementing the proposed amendments. The Draft EA identified "air quality" as the only area that may be adversely affected by the proposed project. After circulation of the Draft SEA, a Final SEA was prepared and certified by the SCAQMD Governing Board on October 3, 2003.

Final Environmental Assessment (EA) for the Proposed Amendments to Rule 1168, May 2002 (SCAQMD No. 121101BAR): A Draft EA for the proposed amendments to Rule 1168 was released for a 45-day public review period from March 5, 2002, to April 19, 2002. The analysis showed that there were potential adverse environmental effects that may result from implementing the proposed amendments. The Draft EA identified "air quality"

as the only area that may be adversely affected by the proposed project. After circulation of the Draft EA, a Final EA was prepared and certified by the SCAQMD Governing Board on June 7, 2002.

Notice of Preparation/Initial Study (NOP/IS) of an Environmental Assessment (EA) for the Proposed Amendments to Rule 1168, December 2001 (SCAQMD No. 121101BAR): The NOP/IS of an EA for the proposed amendments to Rule 1168 was released for a 30-day public review period from December 11, 2001, to January 9, 2002. The NOP was released with an Initial Study, which contained a brief project description and the environmental checklist, as required by CEQA Guidelines. The environmental checklist contained a preliminary analysis of potential adverse environmental effects that may result from implementing the proposed amendments. The NOP/IS identified "air quality" as the only area that may be adversely affected by the proposed project.

Other CEQA Documents for Rule 1168

Several previous environmental analyses have been prepared to analyze past amendments to Rule 1168 and are summarized in the following paragraphs. The following summaries of previous CEQA documents are included for informational purposes only. The current SEA focuses on the currently proposed amendments to Rule 1168 and does not rely on these previously prepared EAs. These documents can still be obtained by contacting the SCAQMD's Public Information Center at (909) 396-2039 or the following e-mail address: ceqa_admin@aqmd.gov.

Final Environmental Impact Report (EIR) for Proposed Rule 1168 – Adhesive Applications, March 1989 (SCH No. 88092110 for Rule 1168, Adopted April 1989): Proposed Rule 1168 was considered a "technology forcing" rule that established interim and final VOC content limits for a variety of adhesive products. The EIR was circulated for a 30-day public review and comment period. The EIR analyzed potential adverse impacts from the proposed project in the following environmental areas: air quality, water quality, energy, risk of upset, public health, indirect environmental effects from economic impacts, solid waste impacts, public service impacts, and transportation. Air quality impacts (indirect emissions from add on air pollution control equipment), energy impacts, and solid waste impacts were concluded to be significant as a result of implementing the proposed project.

Final Environmental Impact Report (EIR) for Proposed Rule 1168 – Adhesive Applications, March 1989 (SCH No. 88092110 for Rule 1168, Amended March 1990): The proposed amendments extended the final compliance for one year for several categories of adhesive products. The SCAQMD concluded that impacts from the proposed project were essentially identical to those identified for Rule 1168 when it was originally adopted. Therefore, the previously prepared Final EIR served as the CEQA document for the proposed project. The previously prepared Final EIR was recertified on March 2, 1990.

Notice of Exemption (NOE) From CEQA for Proposed Amended Rule 1168 – Control of VOC Emissions From Adhesive Applications, June 1991 (for Rule 1168, Amended July 1991): The proposed amendments exempted aerosol spray can adhesives from the transfer efficiency requirements in the rule. The SCAQMD concluded that the proposed

amendments had no significant affect on air quality or emission limitations. Therefore, pursuant to the categorical exemption in CEQA Guidelines §15308 (Class 8 – Actions by Regulatory Agency for Protection of the Environment), a Notice of Exemption was prepared for the proposed project.

Final Staff Report for Proposed Rule 1168 – Solvent Cleaning Operations, Consisting of the Rule Development Assessment, the Environmental Assessment (EA), and the Socioeconomic Impact Assessment, July 1991 (SCAQMD No. 910626MG for Rule 1168, Amended August 1991): The Draft Staff Report, which included the Draft EA, was made available for a 30-day public review and comment period beginning June 26, 1991 and ending July 26, 1991. Though the Draft Staff Report was primarily focused on the adoption of Proposed Rule 1171, the solvent cleaning requirements for the use, storage and disposal of VOC-containing materials in Rule 1168 were also proposed to be superceded by the new requirements in Rule 1171. As a result, the document concluded that the most prevalent type of environmental impacts from adopting Proposed Rule 1171 and amending Rule 1168 were secondary cross-media impacts such as solid waste and disposal of aqueous wastes. However, the potential impacts were reduced to insignificance by requiring implementation of mitigation measures. No other impacts were identified.

Final Staff Report for Proposed Amended Rule 1168 – Adhesive Applications, Consisting of the Rule Development Assessment, the Supplemental Environmental Assessment (EA), and Socioeconomic Impact Assessment November 1992 (SCAQMD No. 921021MG for Rule 1168, Amended December 1992): The Draft Staff Report, which included the Draft Supplemental EA, was made available for a 30-day public review and comment period beginning October 22, 1992, and ending November 22, 1992. The proposed amendments to Rule 1168 delayed implementation of some interim and final VOC content requirement reductions for specified adhesive products. The amount of VOC emission reductions delayed as a result of implementing the proposed amendments exceeded the applicable SCAQMD VOC significance threshold. As a result, the document concluded that the proposed project would generate significant adverse air quality impacts. No other significant adverse impacts were identified.

Notice of Exemption (NOE) From CEQA for Proposed Amended Rule 1168 – Control of VOC Emissions From Adhesive Applications, November 1993 (for Rule 1168, Amended December 1993): The proposed amendments clarified the definition in the previous amendments regarding subfloor roofing adhesives. The SCAQMD concluded that the proposed amendments were administrative in nature and had no significant affect on air quality or emission limitations. Therefore, pursuant to the general rule exemption §15061(b)(3) of the CEQA Guidelines, a Notice of Exemption was prepared for the proposed project.

Final Supplemental Environmental Assessment (EA) for Proposed Amended Rule 1168 – Control of VOC Emissions From Adhesive Applications, 1997 (SCAQMD No. 961215JN for Rule 1168, Amended April 1997): The Draft Supplemental EA was made available for a 45-day review period starting December 16, 1996, and ending January 31, 1997. The proposed amendments extended final compliance dates and exemptions for

certain categories of adhesives. Air quality impacts were considered to be significant because the proposed amendments delayed previously anticipated future emission reductions from certain adhesive applications. No other significant adverse impacts from implementing the proposed project were identified.

Final Supplemental Environmental Assessment (EA) for Proposed Amended Rule 1168 – Adhesive Applications, January 16, 1998 (SCAQMD No. 981202JDN for Rule 1168, Amended February 1998): The Draft Supplemental EA was released for a 45-day review period (December 2, 1997 to January 15, 1998). The proposed amendments to Rule 1168 addressed both the EPA's comments on Rule 1168 and the SCAQMD Governing Board's direction to evaluate Rule 1168 exemptions (j)(12) through (j)(17) (scheduled to sunset on January 1, 1998). It was concluded in the Supplemental EA that, if exemption (j)(17) is used to the fullest degree, the amended rule would result in a loss of future VOC emission reductions in an amount that exceeds the SCAQMD VOC significance threshold. Therefore, potential project-specific air quality impacts of proposed amended Rule 1168 were considered significant. No other significant adverse environmental impacts were identified.

Final Environmental Assessment (EA) for Proposed Amended Rule 1168 – Adhesive and Sealant Applications, August 2000 (SCAQMD No. 2507001168JDN for Rule 1168, Amended September 2000): The amendments to Rule 1168 implemented AQMP control measure CTS-02E to obtain additional VOC emission reductions from specified categories of adhesives. The amendments were expected to reduce VOC emissions from applicable sources by approximately five tons per day. No significant adverse environmental impacts were identified for the proposed project. The Draft EA was released for a 30-day public review and comment period.

INTENDED USES OF THIS DOCUMENT

In general, a CEQA document is an informational document that informs a public agency's decision-makers and the public generally of potentially significant adverse environmental effects of a project, identifies possible ways to avoid or minimize the significant effects, and describes reasonable alternatives to the project (CEQA Guidelines §15121). A public agency's decision-makers must consider the information in a CEQA document prior to making a decision on the project. Accordingly, this ~~Revised Draft~~ Final SEA is intended to: (a) provide the SCAQMD Governing Board and the public with information on the environmental effects of the proposed project; and, (b) be used as a tool by the SCAQMD Governing Board to facilitate decision making on the proposed project.

Additionally, CEQA Guidelines §15124(d)(1) requires a public agency to identify the following specific types of intended uses of a CEQA document:

1. A list of the agencies that are expected to use the SEA in their decision-making;
2. A list of permits and other approvals required to implement the project; and
3. A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies.

To the extent that local public agencies, such as cities, county planning commissions, et cetera, are responsible for making land use and planning decisions related to projects that

must comply with the proposed amendments to Rule 1168, they could possibly rely on this SEA during their decision-making process. Similarly, other single purpose public agencies approving projects at facilities complying with the proposed amendments to Rule 1168 may rely on this SEA.

EXECUTIVE SUMMARY

CEQA Guidelines §15123 requires a CEQA document to include a brief summary of the proposed actions and their consequences. In addition, areas of controversy including issues raised by the public must also be included in the executive summary. This Revised Draft SEA consists of the following chapters: Chapter 1 – Executive Summary; Chapter 2 – Project Description; Chapter 3 – Existing Setting, Chapter 4 – Potential Environmental Impacts and Mitigation Measures; Chapter 5 – Project Alternatives; Chapter 6 - Other CEQA Topics and various appendices. The following subsections briefly summarize the contents of each chapter.

Summary of Chapter 1 – Executive Summary

Chapter 1 includes a discussion of the legislative authority that allows the SCAQMD to amend and adopt air pollution control rules, identifies general CEQA requirements and the intended uses of this CEQA document, and summarizes the remaining five chapters that comprise this ~~Revised Draft~~ Final SEA.

Summary of Chapter 2 - Project Description

The following summarizes the main components of PAR 1168:

- Extend the 540 grams per liter interim VOC content limit for top and trim adhesives to January 1, 2007. The effective date for the final VOC content limit of 250 grams per liter for top and trim adhesives under the current rule is January 1, 2005. Therefore, the effective date for the final VOC content limit of 250 grams per liter for top and trim adhesives would be delayed until January 1, 2007.
- Rescind the January 1, 2005, prohibition of methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications. The proposed rule would allow the use of solvent welding formulations containing methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications provided the concentration of methylene chloride does not exceed 60 percent by weight and the purchase of all methylene chloride welding products for hard sheet plastic does not exceed 20 gallons per calendar year at a single facility.
- Rescind the January 1, 2005, 285 grams per liter VOC content limit requirement for solvent cements used to weld polyvinyl chloride (PVC) plastic pipes and fittings, and instead keep the PVC weld solvent VOC content limit requirement at the interim 510 grams per liter.
- Rescind the January 1, 2005, 270 grams per liter VOC content limit requirement for solvent cements used to weld chlorinated polyvinyl chloride (CPVC) plastic pipes and fittings, and instead keep the CPVC weld solvent VOC content limit requirement at the interim 490 grams per liter.
- Rescind the January 1, 2005 VOC content limit requirement for PVC/CPVC primers of 250 grams per liter, and extend the interim VOC content limit requirement for PVC/CPVC primers of 650 grams per liter from the January 1, 2005 effective date to

July 1, 2005. On July 1, 2005, reduce the VOC content limit requirement for PVC/CPVC primers from 650 grams per liter to 550 grams per liter. ~~Replace the January 1, 2005, VOC content limit requirement for PVC/CPVC primers of 250 grams per liter with a VOC content limit requirement of 550 grams per liter. This new 550 gram per liter VOC content limit is lower that the existing PVC/CPVC primers VOC content limit of 600 grams per liter.~~

- Lower the acrylonitrile-butadiene-styrene (ABS) welding VOC content limit requirement to 325 grams per liter which is currently at 400 grams per liter on July 1, 2005.

Summary of Chapter 3 - Existing Setting

Pursuant to the CEQA Guidelines §15125, Chapter 3 – Existing Setting, includes descriptions of those environmental areas that could be adversely affected by PAR 1168 as identified in the NOP/IS, Final EA prepared for the 2002 amendments, and Final SEA prepared of the 2003 amendments, upon which this ~~Revised Draft~~ Final SEA is based, where the only the environmental topic of "air quality" was identified and analyzed as having the potential to be adversely affected. The following subsection briefly highlights the existing setting for air quality, which, again, was the only environmental area identified that could potentially be adversely affected by implementing PAR 1168.

Air Quality

Air quality in the area of the SCAQMD's jurisdiction has shown substantial improvement over the last two decades. Nevertheless, some federal and state air quality standards are still exceeded frequently and by a wide margin. Of the National Ambient Air Quality Standards (NAAQS) established for six criteria pollutants (ozone, lead, sulfur dioxide, nitrogen dioxide, carbon monoxide and PM10), the area within the SCAQMD's jurisdiction is only in attainment with sulfur dioxide, nitrogen dioxide and lead standards. Chapter 3 provides a brief description of the existing air quality setting for each criteria pollutant, as well as the human health effects resulting from exposure to each criteria pollutant.

Summary of Chapter 4 - Environmental Impacts

CEQA Guidelines §§15126(a) and 15126.2 require that a CEQA document, "shall identify and focus on the significant environmental effects of the proposed project. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects."

The following subsection briefly summarizes the analysis of potential adverse environmental impacts from the adoption and implementation of PAR 1168.

Air Quality

The 2003 Final SEA included an extension for complying with the 250 gram per liter VOC content limit for top and trim adhesives as proposed in the existing Rule 1168 until January 1, 2005. Originally in the 2004 Draft SEA, staff expected that facilities would be able to meet these limits so no change is proposed for these limits. During the 45-day public review period, staff found that top and trim adhesives that comply with the final VOC content limit of 250 grams per liter do not satisfy industry performance requirements. Therefore, the

proposed project was revised to delay the effective date of the 250 gram per liter final VOC content limit for top and trim adhesives from January 1, 2005, to January 1, 2007. The delay would allow top and trim adhesives manufactures time to develop a VOC compliant adhesive that would satisfy industry performance requirements.

The 2002 FEA provided manufacturers additional time to develop compliant products for PVC and CPVC welding; and a provision to eliminate methylene chloride use in solvent welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrication by January 1, 2005.

It was also determined that products formulated with the January 1, 2005 VOC content limits for PVC and CPVC welding and primers, and methylene chloride replacement in hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrication produced inferior performance and could not satisfy industry standards. Therefore, the PAR 1168 would rescind the VOC and methylene chloride limits for the previously mentioned categories. No measures available to mitigate the significant adverse air quality impacts were found. The results of rescinding the above requirements are VOC and methylene chloride emissions reductions foregone.

Staff also proposed~~s~~ in the Revised Draft SEA to establish VOC content limits for ABS welding from 650 grams per liter to 550 grams per liter and for PVC/CPVC primers from 400 grams per liter to 325 grams per liter effective January 1, 2007. The final version of PAR 1168, delays the implementation of the new VOC content limit requirements from January 1, 2005, to July 1, 2005. The direct consequence of this modification would rescind the January 1, 2005 VOC content limit requirement of 250 grams per liter for PVC/CPVC primers, and retain the existing interim VOC content limit requirement of 650 grams per liter until July 1, 2005.

In addition, it was determined that eliminating methylene chloride from acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications could not meet performance and industry standards. PAR 1168 would replace the prohibition of methylene chloride from the previously mentioned formulations with a concentration limit of 60 percent methylene chloride and a single facility limit of 20 gallons per year of methylene chloride containing products used to solvent weld acrylic, polycarbonate, and polyethylene terephalate glycol plastics. Formulations with 60 percent methylene chloride have been developed to meet performance and industry standards.

Owners/operators of affected facilities would not be required to install control equipment or other structures that could generate construction emissions. Therefore, no construction and construction air quality impacts are anticipated for implementing PAR 1168.

The overall result of delaying/rescinding the above mentioned VOC content requirements would be 1.05 tons (2,096 pounds) per day of VOC emission reductions foregone after January 1, 2005. ~~and~~ After implementing the additional proposed limits for PVC/CPVC primers and ABS welding, the VOC emission reductions foregone would be ~~0.82~~ 0.81 ton (~~1,640~~ 1,620 pounds) per day ~~of VOC emission reductions forgone until~~ from July 1, 2005

to January 1, 2007. After January 1, 2007, when the top and trim final VOC content limit would become effective, 0.60 ton (~~1,220~~ 1,206 pounds) of VOC reductions per day would be foregone. After January 1, 2005, the project would generate a maximum carcinogenic risk of three in a million for residential receptors and two in a million for worker receptors, and noncarcinogenic health indices (acute and chronic) below 1.0 from allowing continued methylene chloride use in hard plastic sheet welding.

The VOC emission reductions foregone would exceed the SCAQMD's VOC significance threshold of 55 pounds per day. Allowing limited use of methylene chloride is expected to result in a carcinogenic risk that would be less than the significant criterion of ten in one million. The noncarcinogenic acute and chronic risks would be less than the hazard indices significance criterion of 1.0. Therefore, it is concluded that PAR 1168 has the potential to generate significant adverse air quality impacts from VOC emission reductions foregone during operation.

Cumulative air quality impacts from the proposed amendments and all other AQMP control measures considered together are not expected to be significant because implementation of all AQMP control measures is expected to result in net emission reductions and overall air quality improvement. Indeed, the 2003 AQMP indicated that, based on future anticipated overall reduction in VOC emissions, the district would achieve all federal ambient air quality standards by the year 2010 (SCAQMD, 2003), except for the new eight-hour ozone standard.

Potential Environmental Impacts Found Not To Be Significant

The Initial Study prepared for the 2002 amendments to Rule 1168 (released December 11, 2001) ~~is being~~ was relied upon for the preparation of this ~~Revised Draft~~ Final SEA and includes an environmental checklist of approximately 17 environmental topics to be evaluated for potential adverse impacts from the 2002 amendments. Review of the project at that time showed that the NOP/IS stage identified two topics, air quality and hazards, for further review in the 2002 Draft EA. It was later concluded in the 2002 Final EA that only air quality could be significantly adversely affected by amending Rule 1168. Where the NOP/IS and 2002 Final EA concluded that the project would have no significant direct or indirect adverse effects on the remaining environmental topics, no comments were received on the NOP/IS, 2002 Draft EA, or at the public meetings that changed this conclusion. A Draft SEA for the October 2003 amendments which relied upon the previous NOP/IS and 2002 Final EA was released for a 45-day public review and comment period from August 8, 2003 to September 23, 2003. No comments were received from the public on the 2003 Draft SEA or at public meetings. A 2004 Draft SEA was released for a 45-day public review period on October 13, 2004, which contained the current proposed project without the two year delay the final VOC content limit for top and trim adhesives. During the public review period, the proposed project was revised to delay the final VOC content limit for top and trim adhesives; therefore, the 2004 Draft SEA was revised and recirculated for public review pursuant to CEQA Guidelines §15088.5(a)(2) as a Revised Draft SEA. Further, the conclusions reached in the NOP/IS, 2002 Final EA, 2003 Final SEA, and 2004 Draft Revised SEA regarding environmental topics not expected to be adversely effected are not expected to be altered further by the proposed changes to PAR 1168. Thus, the screening

analysis conclusion that the following environmental areas would not be significantly adversely affected by the 2002 amendments continues to apply to the currently proposed project for PAR 1168:

- aesthetics
- agriculture resources
- biological resources
- cultural resources
- energy
- geology/soils
- hydrology and water quality
- land use and planning
- mineral resources
- noise
- population and housing
- public services
- recreation
- solid/hazardous waste
- transportation/traffic

Consistency

The Southern California Association of Governments (SCAG) and the SCAQMD have developed, with input from representatives of local government, the industry community, public health agencies, the EPA - Region IX and the California Air Resources Board (CARB), guidance on how to assess consistency within the existing general development planning process in the district. Pursuant to the development and adoption of its Regional Comprehensive Plan Guide (RCPG), SCAG has developed an Intergovernmental Review Procedures Handbook (June 1, 1995). The SCAQMD also adopted criteria for assessing consistency with regional plans and the AQMP in its CEQA Air Quality Handbook.

Summary Chapter 5 - Alternatives

Three feasible alternatives to the proposed amendments are summarized in Table 1-1: Alternative A (No Project); Alternative B (Further Delay Compliance Date); and Alternative C (Rescind January 1, 2005 Limits). A comparison of the potential air quality impacts from each of the project alternatives with PAR 1168 is given in Table 1-2. No other significant adverse impacts were identified for PAR 1168 or any of the project alternatives. The proposed project is considered to provide the best balance between emission reductions delayed, health risk, and adhesive performance and, therefore, is preferred over the project alternatives. However, although the proposed project provides the best balance between emission reductions delayed, health risk, and adhesive performance, the Governing Board may choose to adopt any of the alternatives in whole or in part in place of the proposed project.

PAR 1168 as modified consists of a mixture of the project proposed in the Revised Draft SEA and Alternative C. Like the project proposed in the Revised Draft SEA, PAR 1168 would forego 0.81 ton (2,096 pounds) per day between July 1, 2005 and January 1, 2007, when the new VOC content limit requirements for PVC/CPVC primers and ABS welding

become effective. In addition, PAR 1168 would forego 0.60 ton (1,206 pounds) of VOC emission reductions per day after July 1, 2007, when the final VOC content limit requirement for top and trim adhesives becomes effective. However, like Alternative C, between January 1, 2005 and July 1, 2005, PAR 1168 would forgo 1.05 ton (2,096 pounds) of VOC emission reductions per day.

The environmental impacts from the project proposed in the Revised Draft SEA and Alternative C were fully analyzed and disclosed in the Revised Draft SEA. The Revised Draft SEA clearly stated that Governing Board may choose to adopt any of the alternatives in whole or in part in place of the proposed project; therefore, the Governing Board may adopt this modification or any other alternative or portion of an alternative that may generate environmental impacts that are significantly worse than those proposed in the project as long as impacts were disclosed in the document circulated for public review.

Summary Chapter 6 - Other CEQA Topics

CEQA requires CEQA documents to address the potential for impacts from the project that cannot be avoided, irreversible environmental changes, and growth-inducing impacts. Consistent with the Final 2003 AQMP Program EIR, additional analysis of the proposed project confirms that it would not result in irreversible environmental changes or the irretrievable commitment of resources, foster economic or population growth or the construction of additional housing, or be inconsistent with regional plans.

Areas of Controversy

CEQA Guidelines §15123(b)(2) requires a public agency to identify areas of controversy, including issues raised by other agencies and the public. SCAQMD has not been made aware of any areas of controversy, nor has it received any comments during public review and comment periods for the 2003 Final SEA, 2002 Final EA or NOP/IS identifying any areas of controversy. The scheduled comment period for the rescinded 2004 Draft SEA ~~does not~~ ended until November 30, 2004. ~~As a result, SCAQMD has not received any comments on this document identifying any areas of controversy.~~ One comment letter was received on the Draft SEA and is included in Appendix C. No areas of controversy were identified in the comment letter.

The Revised Draft SEA was circulated for a public review and comment period from November 5, 2004 to December 21, 2004. No comment letters were received. Since no areas of controversy were identified by SCAQMD or the public during the review and comment periods for both the Draft SEA and Revise Draft SEA, it is concluded that PAR 1168 does not contain any areas of controversy as defined by CEQA.

Table 1-1
Project Alternatives

Rule Component	VOC Content Limits (Compliance Dates)			
	PAR 1168	**ALTERNATIVE A** (No Project)	**ALTERNATIVE B** (Further Delay Compliance Dates)	**ALTERNATIVE C** (Rescind January 1, 2005 Limits)
Top & Trim Adhesives	• Interim Limit: 540 g/l (In Effect) • Final Limit: 250 g/l (by 01/01/07)	• Interim Limit: 540 g/l (In Effect) • Final Limit: 250 g/l (by 01/01/05)	• Interim Limit: 540 g/l (In Effect) • Final Limit: 250 g/l (by 01/01/07)	• Interim Limit: 540 g/l (In Effect) • Rescind 01/01/05 250 g/l Final Limit
PVC Welding	• Interim Limit: 510 g/l (In Effect) • Rescind 01/01/05 285 g/l Final Limit	• Interim Limit: 510 g/l (In Effect) • Final Limit: 285 g/l (by 01/01/05)	• Interim Limit: 510 g/l (In Effect) • Final Limit: 285 g/l (by 01/01/07)	• Interim Limit: 510 g/l (In Effect) • Rescind 01/01/05 285 g/l Final Limit
CPVC Welding	• Interim Limit: 490 g/l (In Effect) • Rescind 01/01/05 270 g/l Final Limit	• Interim Limit: 490 g/l (In Effect) • Final Limit: 270 g/l (by 01/01/05)	• Interim Limit: 490 g/l (In Effect) • Final Limit: 270 g/l (by 01/01/07)	• Interim Limit: 490 g/l (In Effect) • Rescind 01/01/05 270 g/l Final Limit
PVC and CPVC Primer	• Interim Limit: 650 g/l (In Effect) • Rescind 01/01/05 250 g/l Final Limit, and • Add Final Limit 550 g/l (by ~~01~~ 07/01/05)	• Interim Limit: 650 g/ (In Effect) • Final Limit: 250 g/l (by 01/01/05)	• Interim Limit: 650 g/ (In Effect) • Final Limit: 250 g/l (by 01/01/07)	• Interim Limit: 650 g/l ((In Effect) • Rescind 01/01/05 250 g/l Final Limit
ABS Welding	• 400 g/ (In Effect) • Add Final Limit 325 g/l (by ~~01~~ 07/01/05)	• 400 g/l (In Effect)	• 400 g/l (In Effect)	• 400 g/l (In Effect)
Solvent Welding Hard Acrylic, Polycarbonate, PETG	• No Methylene Chloride Requirement* (In Effect) • Add Methylene Chloride Conc. Limit of 60% by Weight (by 01/01/05) • Add 20 gal/day Limit per Facility on Methylene Chloride Welding Solvent (by 01/01/05)	• No Methylene Chloride Requirement* (In Effect) • Elimination of Methylene Chloride (by 01/01/05)	• No Methylene Chloride Requirement* (In Effect) • Elimination of Methylene Chloride (by 01/01/07)	• No Methylene Chloride Requirement* (In Effect) • Rescind Elimination of Methylene Chloride (by 01/01/05)

*May be restricted by other SCAQMD rules (e.g., Rules 212, 1401)

Table 1-2
Comparison of Adverse Air Quality Impacts of the Alternatives
Loss of Anticipated VOC Emission Reductions

Category	**PAR 1168**	**ALTERNATIVE A** (No Project)	**ALTERNATIVE B** (Further Delay Compliance Dates)	**ALTERNATIVE C** (Rescind January 1, 2005 Limits)
Top & Trim Adhesives	Temporary loss in VOC emission reductions of 414 pounds per day continues until 01/01/07	No emission reductions foregone	Temporary loss in VOC emission reductions of 414 pounds per day continues until 01/01/07	Permanent loss in VOC emission reductions of 414 pounds per day
PVC Welding	Permanent loss in VOC emission reductions of ~~504~~ 500* pounds per day	No emission reductions foregone	Temporary loss in VOC emission reductions of ~~504~~ 502* pounds per day continues until 01/01/07	Permanent loss in VOC emission reductions of ~~504~~ 502* pounds per day
CPVC Welding	Permanent loss in VOC emission reductions of ~~158~~ 156* pounds per day	No emission reductions foregone	Temporary loss in VOC emission reductions of ~~158~~ 156* pounds per day continues until 01/01/07	Permanent loss in VOC emission reductions of ~~158~~ 156* pounds per day
PVC and CPVC Primer	Temporary loss in VOC emission reductions of 1,024 pounds per day continues until 07/01/05. Permanent loss in VOC emission reductions of ~~773~~ 768* pounds per day after 07/01/05	No emission reductions foregone	Temporary loss in VOC emission reductions of ~~1,030~~ 1,024* pounds per day continues until 01/01/07	Permanent loss in VOC emission reductions of ~~1,030~~ 1,024* pounds per day
ABS Welding	Additional Emissions reductions of 220 pounds per day	No change	No change	No change
Solvent Welding Hard Acrylic, Polycarbonate, PETG	Carcinogenic risk of three in a million. Acute and chronic hazard indices less than 1.0.	Elimination of carcinogenic and noncarcinogenic risk from methylene chloride	Acute and chronic hazard indices less than 1.0.until 01/01/07	Carcinogenic risk of four in a million. Acute and chronic hazard indices less than 1.0.
VOC Air Quality Impacts Significant?	Yes	No	Yes Less Than PAR 1168	Yes Greater Than PAR 1168
Methylene Chloride Risk Impacts Significant?	No	No	No	No

* Changed to be consistent with Table 4-4. Difference is a result of rounding. Ton values presented in Table 4-4 are rounded to three significant figures based on the original estimates in the October 1992 Staff Report for PAR 1168. Values in Table 1-2 were not rounded previously.

CHAPTER 2

PROJECT DESCRIPTION

Project Location
Background
Project Objective
Project Description
Technology Review

PROJECT LOCATION

The SCAQMD has jurisdiction over an area of 10,473 square miles (referred to hereafter as the district), consisting of the four-county South Coast Air Basin and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 2-1).

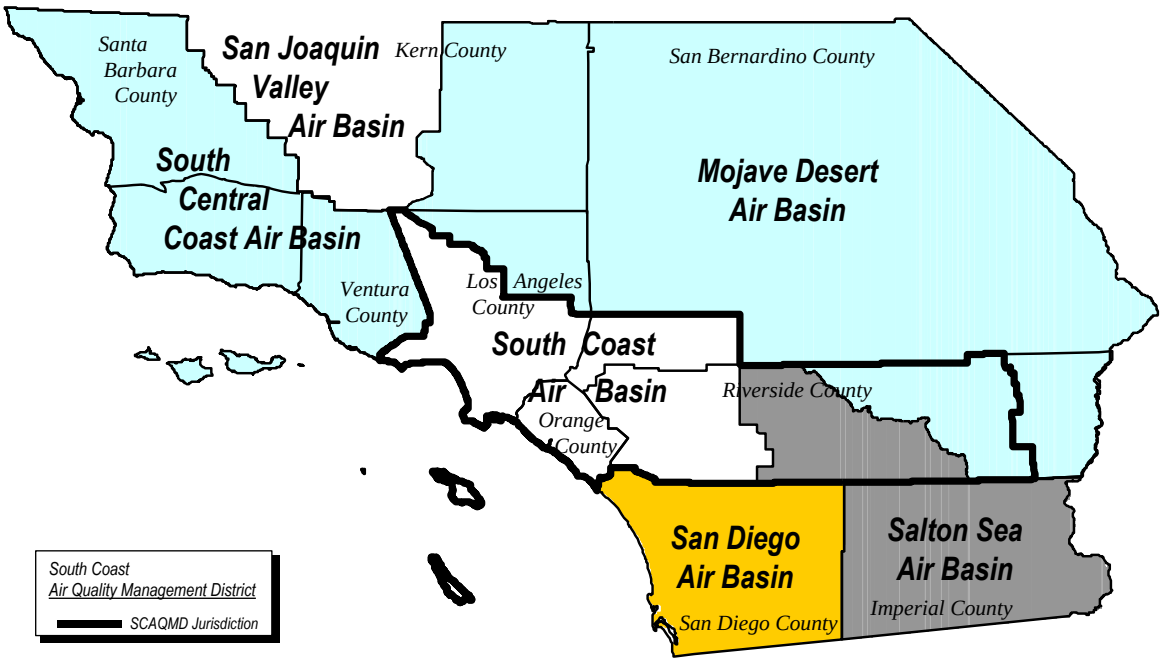

Figure 2-1
South Coast Air Quality Management District

BACKGROUND

Rule 1168 – Adhesive and Sealant Applications, controls VOC emissions from the use of adhesives and sealants used by industrial and commercial sources. Industrial sources use a wide variety of adhesives and sealants primarily for structural, thermal, or electrical applications to bond metals, plastics and composites of plastics, glass, ceramics, rubber, and paper to themselves or to each other. Companies in the district that use adhesives and sealants are engaged in a variety of activities including the assembly of corrugated boxes, motor vehicle parts and accessories, motor homes, metal and wood office furniture, pen and mechanical pencil parts, tire retreading and repairs, hardwood veneers, plastic foam products, wood office furniture and shelving, wood kitchen cabinets, fabricated metal parts and products, household furniture, electronic components and accessories, industrial machinery, and fabricated textile products. The commercial sector of the adhesives market is largely architecturally based. Application examples include: indoor and outdoor carpeting, carpet pad, wood flooring, ceramic tile, dry wall, paneling, subfloor, rubber floor, cove base, vinyl composition tile (VCT) and asphalt tile, single-ply roof membrane adhesives, and most of the plastic pipe welding and priming applications.

Three of the components of the Rule 1168 amendments that were adopted in 2002 included the following: allow the inclusion of additional time for manufacturers to develop compliant products for top and trim adhesive, PVC and CPVC welding and primers; and a provision that prohibits methylene chloride use in solvent welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrication on or after January 1, 2005.

Automotive and marine top and trim adhesives are typical used for recovering door panels, seats, dashboards, convertible tops, and floor covering, as well as the installation of sunroofs and vinyl tops. The June 2002 amendments created a special category for top and trim adhesives and set an interim VOC limit of 540 grams per liter until January 1, 2004. By this date, the VOC limit would reduce to 250 grams per liter. Pursuant to the Governing Board resolution, staff performed a technology assessment in 2003 to determine the feasibility of the 250 grams of VOC per liter limit for top and trim applications. Based on this evaluation, staff recommended, and the Governing Board agreed to delay implementation of the January 1, 2004 limits to January 1, 2005. The primary arguments for supporting a delay of emission reductions were difficulties in application of waterborne top and trim adhesives (precise tack time, low initial strength, and lesser heat resistance), coupled with the experimental nature of acetone-containing adhesives meeting the 250 grams of VOC per liter limit. Both types of adhesives, as well as hot melt glues, were being used at larger automotive conversion shops but there were performance and application concerns with water and acetone-based adhesives. Acetone based replacement adhesives are still experimental in nature and to date have not shown the necessary high heat and stain resistant characteristics that are needed for the performance demands of this industry.

In addition, previous amendments to Rule 1168 in December 1992, April 1997, and October 2003 postponed the final emission limits for adhesives and primers used to weld plastic pipes and pipe-fittings together and allow more time for development of low-VOC formulations. Despite those numerous extensions, efforts to develop compliant low-VOC adhesive technology has had limited success due to difficulties in substituting exempt

compounds for VOC solvents in PVC and CPVC welding formulations, obtaining other regulatory agency and product approval requirements, such as those of the National Sanitation Foundation (NSF), as well as conformity with specified strength requirements of applicable American Society of Testing and Materials (ASTM) standards.

Also, as part of the June 7, 2003 amendment, the Governing Board approved a ban on the sale of adhesives and sealants containing toxic chemicals such as methylene chloride, perchloroethylene, ethylene dichloride, chloroform and trichloroethylene; completely phasing-out the use of these solvents by January 1, 2005, considering one-year sell-through provisions. The ban was justified by the availability of alternative compliant adhesives and sealants. One exception to the availability of non-methylene chloride containing adhesives is solvent welding of hard acrylic, polycarbonate and polyethylene terephalate glycol plastic fabrications. As a result, an additional year (and subsequent one-year sell-through provision) was provided to allow for the continued development of acceptable replacements for methylene chloride formulations.

On October 13, 2004 a draft subsequent environmental assessment (SEA) was completed and circulated for a 45-day public review period ending November 30, 2004. At that time, it was believed that top and trim adhesives could meet the January 1, 2005, 250 grams of VOC per liter limit. Therefore, no changes to top and trim portions of Rule 1168 were proposed. It was also determined that products formulated with the January 1, 2005 VOC content limits for PVC, CPVC welding or methylene chloride replacement in hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrication produced inferior performance and could not meet industry standards and; therefore, are proposed to be rescinded. No measures available to mitigate the significant adverse air quality impacts were found.

During the 45-day public review period of the 2004 Draft SEA, the top and trim industry reported that the adhesives that met the January 1, 2005 final VOC limit (250 grams of VOC per liter of adhesive) were not meeting industry open time, repositionability, heat resistance, and stain resistance standards. Based on these findings, SCAQMD staff recommended delaying the 250 grams of VOC per liter of top and trim adhesive standard for two years (January 1, 2007). No other changes were made to PR 1168 at that time.

Therefore, the project was revised to retain the interim 540 gram per liter of VOC content limit for top and trim adhesives until January 1, 2007, at which time the final 250 gram per liter VOC limit would become effective. The remaining elements of PAR 1168 remained the same at that time. The January 1, 2005 VOC content limit for PVC/CPVC primers of 250 grams per liter would be replaced with a VOC content limit of 550 grams per liter. New VOC content limits are proposed for ABS welding. In addition, concentration and facility use limits are proposed to limit health risk associated with the use of methylene chloride solvent welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications.

After the release of the Revised Draft SEA, PAR 1168 was modified to delay the new VOC content limit requirements of 550 grams per liter for PVC/CPVC and 325 grams per liter

from January 1, 2005 to July 1, 2005. The remaining elements of PAR 1168 remain the same.

PROJECT OBJECTIVE

The primary project objectives include the following:

- The primary project goal of allowing facilities to use the lowest VOC and methylene chloride content limits that can meet industry performance requirements.
- Delay the future final VOC content limit requirements for top and trim adhesives for two years (January 1, 2007) to allow adhesive manufactures to develop a compliant adhesive that can satisfy industry performance requirements.
- Rescind the future VOC content limit requirements for PVC and CPVC welding, and the elimination of methylene chloride from welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications.
- Revise the VOC content limits for PVC and CPVC primers. Establish new lower VOC content limit requirements for ABS welding.
- Allow the use of methylene chloride in solvent welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications after January 1, 2005, but limit carcinogenic and noncarcinogenic risk by establishing restrictions on methylene chloride concentrations and annual facility usage of solvent welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications.

PROJECT DESCRIPTION

The following is a summary of the proposed changes to PAR 1168.

- Extend the 540 grams per liter interim VOC limit for top and trim adhesives to January 1, 2007. The effective date for the final VOC limit of 250 grams per liter for top and trim adhesives under the current rule is January 1, 2005. Therefore, the effective date for the final VOC limit of 250 grams per liter for top and trim adhesives would be delayed until January 1, 2007.
- Rescind the January 1, 2005, prohibition of methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications. The proposed rule would allow the use of solvent welding formulations containing methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications provided the concentration of methylene chloride does not exceed 60 percent by weight and the purchase of all methylene chloride welding products for hard sheet plastic does not exceed 20 gallons per calendar year at a single facility.
- Rescind the January 1, 2005, 285 grams per liter VOC content limit requirement for solvent cements used to weld polyvinyl chloride (PVC) plastic pipes and fittings, and instead keep the PVC welding VOC content limit requirement at the interim 510 grams per liter.
- Rescind the January 1, 2005, 270 grams per liter VOC content limit requirement for solvent cements used to weld chlorinated polyvinyl chloride (CPVC) plastic pipes and fittings, and instead keep the CPVC welding VOC content limit requirement at the interim 490 grams per liter.
- Rescind the January 1, 2005 VOC content limit requirement for PVC/CPVC primers of 250 grams per liter, and extend the interim VOC content limit requirement for

PVC/CPVC primers of 650 grams per liter from the January 1, 2005 effective date to July 1, 2005. On July, 1, 2005, reduce the VOC content limit requirement for PVC/CPVC primers from 650 grams per liter to 550 grams per liter. ~~Replace the January 1, 2005, VOC content limit requirement for PVC/CPVC primers of 250 grams per liter with a VOC content limit requirement of 550 grams per liter. This new 550 gram per liter VOC content limit is lower that the existing PVC/CPVC primers VOC content limit of 600 grams per liter.~~

- Lower the acrylonitrile-butadiene-styrene (ABS) welding VOC content limit requirement to 325 grams per liter which is currently at 400 grams per liter effective July 1, 2005.

A copy of PAR 1168 can be found in Appendix A.

TECHNOLOGY REVIEW

Top and Trim Adhesives

In the October 3, 2003 amendment to Rule 1168, staff recommended delaying the 250 grams of VOC per liter future compliance date by an additional year. This recommendation was primarily due to the experimental nature of acetone-based contact adhesives use in the automotive top and trim market, as well as comments by industry representatives regarding the difficulties with using waterborne adhesives. Since June 2004, operators of one large automotive converter have now transitioned into a new acetone-based adhesive (designed initially for the aerospace industry) whose performance and workability meets their satisfaction and complies with the future VOC limit of this specialty application. It was primarily because of this finding that staff recommends retaining the January 1, 2005 limit of 250 grams of VOC per liter, less water and less exempt compounds at the public workshop held on June 29, 2004. Based on correspondence with a large operator, the staff assessment of this formulation was that small shops could also use this adhesive for their operations. As of October 26, 2004, staff has confirmed that use of this acrylonitrile rubber-based cement has been discontinued due to unacceptable heat resistance in the field and a staining problem with light colored vinyl top material. The higher-VOC adhesive (540 grams per liter) is easier to use and is demonstrated to work; however, staff also believes that waterborne products available in the marketplace are viable as well and will work for certain applications where porous-to-porous or porous-to-nonporous substrates are bonded in areas of the vehicle that are not subject to direct heat insolation. Due to the lack of a single multipurpose top and trim adhesive, staff is further recommending delaying implementation of the 250 grams of VOC per liter standard for an additional two years.

Currently Compliant High-VOC Adhesives

The top and trim industry uses adhesives to attach various natural and synthetic materials to a variety of differing substrates including hard plastics and plastic foams, synthetic rubber, metal, and wood. Normally, these operations result in aftermarket trim including upholstery, carpeting, wood veneer, and dash covering, vinyl tops, convertible tops, headliners, door panels, seat covering, and sunroofs.

Several products are on the market and contain 490 to 540 grams of VOC per liter, less exempt compounds. They are multipurpose spray-grade contact adhesives that work for a

variety of automotive and marine applications. They contain some exempt compounds, such as acetone (25 to 35 percent by weight), and have solids contents on the order of 22 to 25 percent by volume. The applied VOC emissions resulting from their use are approximately 340 to 385 grams per liter of material used (2.8 to 3.2 pounds per gallon), and are the mainstay for small business operators today.

Waterborne Adhesives

Waterborne contact adhesives are available and are in use at a few top and trim facilities. These materials are formulated with the same neoprene rubber base, in water, with rosin acids and very little VOC (up to 80 grams per liter, less water), or as dispersions of acrylic resin and synthetic rubber in water with no VOC. These materials are much more expensive and require the use of gravity feed spray equipment, if the container can be placed above the article to be sprayed. If not, an HVLP gun with an activator pump will be needed. These products work well on foam and fabrics to foam, wood, supported vinyl, cardboard and other porous substrates. Some products may not perform well on direct spray overhead applications due to low initial green strength; however, some technical data sheets claim instant bond strength after application. Most waterborne top and trim adhesives have little or no tack and release capability, which may affect applications where materials need to be repositioned as in curvature bonding. Bonding to rubber, metal or plastic is also difficult. Some are prone to fabric staining through bleed-through; users should consult manufacturers' specification data to determine substrate compatibility.

Since the dry time of waterborne contact adhesives is longer, open time can be reduced by the addition of a salt activator. The waterborne adhesives have greater solids content (50 to 60 percent by volume). It is generally true that when applying a waterborne adhesive, one of the two adjoining substrates must be porous to allow the water to evaporate. 3M, Simalfa, and Casa Adhesive Systems manufacture a host of compliant waterborne adhesives that are being used in Original Equipment Manufacturer (OEM) facilities. The following company is using two of them today:

Known Conversion

- ✓ **El Kapitan Vans**

  El Kapitan Vans is a van conversion facility located in Westminster, CA. Stock vans are customized to fit individual requirements. El Kapitan uses both an activated waterborne polychloroprene and a single component latex adhesive to install various trim materials to metal, synthetic foam rubbers, and wood. Examples of this are the application of dense foam rubber padding to metal flooring and wheel wells and carpeting to the rubber padding, headliner material to molded plastic foam shells and various wood surfaces to foam backed vinyl or leather trim. In each case, at least one of the surfaces is porous.

  The conversion to waterborne adhesives has not been simple as the adhesive is very aggressive and cannot be repositioned without reapplying additional adhesive. Precision placement of trim materials is necessary around contours. Cold day applications (increased tack time) are overcome with additional activator. The polychloroprene adhesive works best when applied in a mist rather than higher or more complete coverage. This adhesive has been in use for nearly 3 years. The latex adhesive has been in use for a little less than a year, as they find it to work better that the activated product

on their carpet applications. Incidental problem areas are addressed by hand-held aerosol spray adhesive. Hand-held aerosol adhesives are exempt from Rule 1168, but subject to the California Air Resources Board's Consumer Products Regulation.

Acetone-Based Adhesives

Acetone-based contact adhesives are still experimental in nature and stain light colored materials. Neoprene rubber-based cements, which display the necessary heat resistance are not yet viable in the workplace at or below 250 grams of VOC per liter. Attempts to formulate low-VOC acetone-based adhesives with satisfactory performance have yet to be fruitful, in all operations and for all colors of materials. To date, adhesive manufacturers have developed at least four products but have not achieved full marketability in the top and trim industry.

Sovereign Industrial Adhesives has tested several adhesives at a new vehicle convertible top converter in Ventura County4. Some of the formulations are zero VOC acetone-based. 3M also has one product formulated with acetone that is near zero VOC, which had shown promise, yet was found to be unsuitable by the end user. In addition, a canister adhesive (Westech HSC13) is available that is touted by the manufacturer to be excellent for automotive headliners, the VOC content is less than 80 grams per liter. ITW TACC had formulated a high-solids adhesive with acetone, but made the business decision to stop production at this time. Unfortunately, the technical viability of these products is not yet proven, and manufacturers need more time for research, development, and performance testing of products with low-VOC content, but with high volumes of exempt compound.

Known Partial Conversion

- ✓ **Krystal Koach**

  Krystal Koach is a large limousine manufacturer that also manufactures a line of tour buses. Operators of this facility use a variety of hot melt, waterborne, pressure sensitive tapes and acetone-based adhesives for a variety of applications. The most difficult applications are headliner and vinyl top installations. Krystal Koach bonds a zero VOC closed cell foam tape to the roof and follows that with the application of near zero VOC acetone-based contact adhesive to bond supported vinyl fabric to the closed cell foam to form a vinyl top. This adhesive is an acrylonitrile butadiene rubber (NBR), which has inherently high heat resistance of 212°F. The product is described to be repositionable, have good tack time and very high strength when dry. However, due to staining of light colored vinyl top materials and insufficient long term heat resistance, Krystal Koach no longer uses this product. Krystal Koach continues to use activated waterborne neoprene cement and hot melt adhesives in applications where high heat resistance (220°F) is not a factor.

Hot Melts

Sprayable hot melts are typically used for light-duty applications such as application of leather seating and door panel trim and carpeting to metal, vinyl, fiberglass and other plastics. The adhesives are very cost effective compared to standard high-VOC contact adhesives. The material comes in 1¾-inch and 2-inch slugs that melt inside an

[4]Variance Progress Report to the Ventura County Air Pollution Control District, Robbins Auto Top, 5-27-03

accompanying spray tool. Materials display high heat resistance and are available with long and short tack times. Krystal Koach is using a pressure sensitive hot melt technology, but not for areas of the vehicle that are subject to the highest temperature swings.

PVC and CPVC Welding

These products provide the mechanism for bonding same substrate materials such as plastic plumbing and electrical parts and plastic sheeting together by direct fusing to form a leak-tight continuous joint. Both plastic types typically require the use of a primer to soften the joint areas prior to the application of the cement. The finished plastic piping systems deliver drinking and irrigation water, discharge and vent sewage, transport liquid chemicals, and act as a conduit for electric and telephone wiring. Building and Uniform Plumbing codes mandate that International Association of Plumbing and Mechanical Officials (IAPMO) specifications be met. American Society for Testing and Materials (ASTM) and Nation Sanitation Foundation (NSF) requirements set the basis for IAPMO approval.

Since these products are exposed to drinking water, ASTM standards allow the use of a few organic compounds. Allowable compounds include the following: tetrahydrofuran, methyl ethyl ketone, cyclohexanone, and acetone. Acetone is an exempt compound and reduces the VOC content of adhesive formulations; however, there are certain solubility limits that restrict the total volume of acetone that can be added to a specific formulation, which in turn limits the benefit of VOC content reduction once the volume of acetone is subtracted out. High quantities of acetone cause surface crazing, a phenomenon that is not conducive to proper welding. Plastic pipe and pipefittings must be dissolved with a primer to soften the joint before application of the cement. Acetone is the only approved exempt compound under NSF ruling and it does not dissolve PVC or CPVC. Furthermore, in order for the joint to have durability, 20 to 25 percent of the reactive diluent must remain in the assembly to provide proper wetting. To date, newer formulations containing more acetone result in applications that do not meet ASTM requirements. This also applies to the primer. Solvent cement manufacturers have unsuccessfully spent approximately 11 years trying to formulate low-VOC cements and primers that meet applicable standards.

During the promulgation of the June 7, 2002 amendments, staff was hopeful that an adhesive technology (specifically epoxy) could replace solvent welding. Laboratory tests on such products show high bond strengths (lap shears) after 16 hours. However, there is no apparent penetration and softening of the PVC by the adhesive and this may interfere with long-term performance. Hydrostatic pressure burst testing also shows failure after two hours, indicative of failure under higher pressures. The requirement under ASTM 2564 standards is withstanding a pressure of 400 psig. In addition, epoxies showed the potential for constricted flow paths due to the configuration of the designed taper of pipefittings and the relative high viscosity of the epoxy adhesive. Two-component mixes are also more challenging to work with compared to one component solvent cements offered today. To date, staff cannot identify lower-VOC adhesives that can be used to adequately bond PVC and CPVC pipes and pipefittings, that meet Rule 1168 technological forcing limits, and only slight reductions are available in primers.

Water-based formulations have also been tried and were found to lead to excessive dry times and low bond strength; water has a high surface tension while the surface tension of rigid

plastic is low. Therefore, the ability of waterborne products to adequately wet the surface and provide the mechanism for welding is considered to be inadequate at this time.

Staff has determined that the current limits of 510 grams of VOC per liter for PVC welding and 490 grams of VOC per liter for CPVC welding represent reasonably available control technology limits.

~~However, reformulation of adhesives used in ABS welding will partially offset the emission reductions foregone from VOC content reductions not realized by PVC and CPVC welding systems including primers. Specifically, reformulated ABS welding products are now 325 grams per liter, reduced from 400 grams per liter. New VOC regulation for PVC/CPVC primers can be set at 550 grams per liter from 650 grams per liter, but not retained at 250 grams of VOC per liter. New PVC/CPVC primer and ABS cements at 550 and 325 grams of VOC per liter, respectively, will be available from the two largest manufacturers of these products for both industrial and architectural applications by January 1, 2005.~~ Previously, information was provide to staff that PVC/CPVC primer and ABS cements at 550 and 325 grams of VOC per liter, respectively, would be available from the two largest manufacturers of these products for both industrial and architectural applications by the first of the year. Based on this information, staff proposed a compliance date of January 1, 2005, for the lower VOC primers and ABS cements. However, in mid November 2004, one of the manufacturers requested an additional six months to complete the certification process for its primer under the NSF standards and make it available in the marketplace. In order to ease the transition into the marketplace for both lower-VOC primer and ABS cement, staff now recommends establishing a compliance date of July 1, 2005, for the lower VOC limits for PVC/CPVC primer and ABS cement. A one-year sell-through and use of cements and primers meeting the existing limits will also help cover the transition period.

Other Plastic Welding – Methylene Chloride

Acrylic, polycarbonate, and polyethylene terephalate glycol plastic (PETG) sheeting is used to build various plastic items. Among these are card deck shoes, food bins, aquariums, trophies and display cases of all kinds. Typical assemblies are cut from sheet acrylic, polycarbonate into specified geometries, dry fitted and welded in place with a syringe applicator. The solution, which contains large percentages of methylene chloride, wicks under the adjoining surfaces, fusing them together. The process from welding to packaging takes 15 to 20 minutes. Exempt compounds, such as acetone, do not provide the degree of solvation that methylene chloride does and results in weak bonds. However, manufacturers have replaced some of the total mix with methyl acetate (an exempt compound) resulting in lower concentrations of methylene chloride. The formulations now contain roughly 40 to 60 percent by weight of methylene chloride, depending on the viscosity of the applied cement (light, medium or heavily bodied cements).

As part of the July 7, 2002 amendments to Rule 1168, staff recognized that phasing out the use of methylene chloride based solvent cements for hard plastic may be difficult to achieve by reformulation. Efforts by manufacturers of these adhesives over the last two years have resulted in reducing the maximum methylene chloride content to 60 percent by weight, down from 91 percent in the original formulation. The inferior performance of substitute products compared to methylene chloride makes a complete phase out of methylene chloride

in this specific application infeasible. However, the maximum annual use of such solvent welding products for each end user is quite small because a syringe full of solvent welding material can weld many parts. To limit health risk associated with the use of these products, staff proposes to limit the methylene chloride content of these adhesives to 60 percent by weight and proposes to restrict the sales to and use by any single facility to 20 gallons per year of methylene chloride containing products used for solvent welding of acrylic, polycarbonate and PETG plastics. This estimates the current maximum annual usage of larger fabricators. Emissions from existing sources at this level are well within current health-based standards using a "worst-case" scenario for an impacted receptor.

CHAPTER 3

EXISTING SETTING

Introduction
Air Quality
Affected Sources

INTRODUCTION

In order to determine the significance of the impacts associated with a proposed project, it is necessary to evaluate the project's impacts against the backdrop of the environment as it exists at the time the NOP/IS is published. The CEQA Guidelines defines "environment" as "the physical conditions that exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance" (CEQA Guidelines §15360; see also Public Resources Code §21060.5). Furthermore, a CEQA document must include a description of the physical environment in the vicinity of the project, as it exists at the time the notice of preparation is published, from both a local and regional perspective (CEQA Guidelines §15125). Therefore, the "environment" or "existing setting" against which a project's impacts are compared consists of the immediate, contemporaneous physical conditions at and around the project site (Remy, et al; 1996).

The following sections summarize the existing setting for air quality which is the only environmental area that may be adversely affected by proposed amended Rule 1168. An overview of air quality in the district is given below. A more complete discussion of current and projected future air quality in the district, with and without additional control measures can be found in the 2003 Final Program EIR for the 2003 AQMP (Chapters 3 and 4). The Final Program EIR for the 2003 AQMP contains more comprehensive information on existing and projected environmental settings for all environmental areas discussed in this chapter. Copies of the above-referenced documents are available from the SCAQMD's Public Information Center by calling (909) 396-2039.

AIR QUALITY

Criteria Pollutants

It is the responsibility of the SCAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), particulate matter less than 10 microns (PM10), particulate matter less than 2.5 microns (PM2.5), and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards and in the case of PM10 and SO2, far more stringent. California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride. The state ambient air quality standards and NAAQS for each of these pollutants and their effects on health are summarized in Table 3-1.

The SCAQMD monitors levels of various criteria pollutants at 32 monitoring stations. The 2002 air quality data from SCAQMD's monitoring stations are presented in Table 3-2.

Table 3-1
State and Federal Ambient Air Quality Standards

AIR POLLUTANT	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
	CONCENTRATION, AVERAGING TIME		
Carbon Monoxide (CO)	20 ppm, 1-hour average > 9 ppm, 8-hour average >	35 ppm, 1-hour average > 9.5 ppm, 8-hour average <=	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and, (d) Possible increased risk to fetuses.
Ozone (O_3)	0.09 ppm, 1-hour average >	0.12 ppm, 1-hour average > 0.08 ppm, 8-hour average >	(a) Short-term exposures: 1) Pulmonary function decrements and localized lung edema in humans and animals; and, 2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; and, (d) Property damage.
Nitrogen Dioxide (NO_2)	0.25 ppm, 1-hour average >	0.0534 ppm, AAM >	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and, (c) Contribution to atmospheric discoloration.

KEY:

ppm = parts per million parts of air, by volume	AAM = Annual Arithmetic Mean
$\mu g/m^3$ = micrograms per cubic meter	AGM = Annual Geometric Mean

Table 3-1 (concluded)
State and Federal Ambient Air Quality Standards

AIR POLLUTANT	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
	CONCENTRATION, AVERAGING TIME		
Sulfur Dioxide (SO_2)	0.25 ppm, 1-hour average > 0.04 ppm, 24-hour average >	0.03 ppm, AAM > 0.14 ppm, 24-hour average >	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM10)	20 µg/m^3, AAM > 50 µg/m^3, 24-hour average >	50 µg/m^3, AAM > 150 µg/m^3, 24-hour average >	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; and (b) Excess seasonal declines in pulmonary function, especially in children.
Suspended Particulate Matter (PM2.5)	12 µg/m^3, AAM >	15 µg/m^3, AAM > 65 µg/m^3, 24-hour average >	(a) Increased hospital admissions and emergency room visits for heart and lung disease; (b) Increased respiratory symptoms and disease; and (c) Decreased lung functions and premature death.
Lead	1.5 µg/m^3, 30-day average >=	1.5 µg/m^3, calendar quarterly average >	(a) Increased body burden; and (b) Impairment of blood formation and nerve conduction.
Sulfates (SOx)	25 µg/m^3, 24-hour average >=		(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; and, (f) Property damage.
Visibility-Reducing Particles	In sufficient amount to give an extinction coefficient >0.23 inverse kilometers (visual range to less than 10 miles) with relative humidity less than 70 percent, 8-hour average (10am – 6pm PST)		Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent.
Hydrogen Sulfide	0.03 ppm, 1-hour average >=		Odor annoyance.
Vinyl Chloride	0.010 ppm, 24-hour average >=		Known carcinogen.

KEY:

ppm = parts per million parts of air, by volume	AAM = Annual Arithmetic Mean
µg/m^3 = micrograms per cubic meter	AGM = Annual Geometric Mean

Table 3-2
2003 Air Quality Data – South Coast Air Quality Management District

CARBON MONOXIDE (CO)						
					No. Days Standard Exceeded[a]	
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (ppm, 1-hour)	Max. Conc. (ppm, 8-hour)	Federal ≥ 9.5 ppm, 8-hour	State > 9.0 ppm, 8-hour
LOS ANGELES COUNTY (Co)						
1	Central Los Angeles	365	6	4.6	0	0
2	Northwest Coast Los Angeles Co	365	5	2.7	0	0
3	Southwest Coast Los Angeles Co	361	7	5.0	0	0
4	South Coast Los Angeles Co	363	6	4.7	0	0
6	West San Fernando Valley	365	6	4.1	0	0
7	East San Fernando Valley	349	5*	4.7*	0*	0*
8	West San Fernando Valley	365	5	3.8	0	0
9	East San Gabriel Valley 1	365	5	2.6	0	0
9	East San Gabriel Valley 2	357	3	2.1	0	0
10	Pomona/Walnut Valley	365	6	4.4	0	0
11	South San Gabriel Valley	365	5	4.0	0	0
12	South Central Los Angeles Co	362	12	7.3	0	0
13	Santa Clarita Valley	363	3	1.7	0	0
ORANGE COUNTY						
16	North Orange County	365	8	4.1	0	0
17	Central Orange County	365	6	3.9	0	0
18	North Coastal Orange County	365	7	5.8	0	0
19	Saddleback Valley	362	3	1.8	0	0
RIVERSIDE COUNTY						
22	Norco/Corona	--	--	--	--	--
23	Metropolitan Riverside County 1	365	5	3.7	0	0
23	Metropolitan Riverside County 2	360	5	3.4	0	0
24	Perris Valley	--	--	--	--	--
25	Lake Elsinore	345	4*	1.3*	0*	0*
29	Banning Airport	--	--	--	--	--
30	Coachella Valley 1**	339	3*	1.3*	0*	0*
30	Coachella Valley 2**	--	--	--	--	--
SAN BERNARDINO COUNTY						
32	NW San Bernardino Valley	363	4	2.9	0	0
33	SW San Bernardino Valley	--	--	--	--	--
34	Central San Bernardino Valley 1	--	--	--	--	--
34	Central San Bernardino Valley 2	365	5	4.6	0	0
35	East San Bernardino Valley	--	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--	--
DISTRICT MAXIMUM			12	7.3	0	0
SOUTH COAST AIR BASIN			12	7.3	0	0

KEY:

ppm = parts per million parts of air, by volume	* Less than 12 full months of data. May not be representative.
-- = Pollutant not monitored	** Salton Sea Air Basin

[a] The federal 1-hour standard (1-hour average CO > 35 ppm) and state 1-hour standard (1-hour average CO > 20 ppm) were not exceeded.

Table 3-2 (Continued)
2003 Air Quality Data – South Coast Air Quality Management District

OZONE (O_3)									
							No. Days Standard Exceeded		
							Federal		State
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (ppm, 1-hour)	Max. Conc. (ppm, 8-hour)	Fourth Highest Conc. (ppm, 8-hour)	Health Advisory ≥ 0.15 ppm, 1-hour	> 0.12 ppm, 1-hour	> 0.08 ppm, 8-hour	> 0.09 ppm, 1-hour
LOS ANGELES (LA) COUNTY (Co)									
1	Central LA	365	0.152	0.088	0.083	1	1	2	11
2	NW Coast LA Co	365	0.134	0.105	0.083	0	1	1	11
3	SW Coast LA Co	365	0.110	0.078	0.073	0	0	0	2
4	South Coast LA Co	365	0.099	0.071	0.063	0	0	0	1
6	W San Fernando Valley	365	0.179	0.129	0.119	1	14	49	68
7	E San Fernando Valley	341	0.134*	0.108*	0.097*	0*	4*	20*	37*
8	W San Fernando Valley	365	0.152	0.108	0.103	1	7	28	44
9	E San Gabriel Valley 1	365	0.150	0.124	0.107	1	11	21	40
9	E San Gabriel Valley 2	365	0.162	0.134	0.123	7	22	41	61
10	Pomona/Walnut Valley	365	0.161	0.123	0.109	3	13	24	39
11	S San Gabriel Valley	364	0.128	0.097	0.084	0	1	2	18
12	South Central LA Co	361	0.081	0.063	0.059	0	0	0	0
13	Santa Clarita Valley	363	0.194	0.152	0.137	15	35	69	89
ORANGE (OR) COUNTY (Co)									
16	North OR Co	365	0.165	0.087	0.082	1	1	2	7
17	Central OR Co	365	0.136	0.087	0.082	0	2	1	11
18	North Coastal OR Co	364	0.107	0.088	0.080	0	0	1	4
19	Saddleback Valley	362	0.153	0.105	0.097	1	4	8	16
RIVERSIDE (RV) COUNTY (Co)									
22	Norco/Corona	--	--	--	--	--	--	--	--
23	Metropolitan RV Co 1	365	0.169	0.140	0.123	4	18	62	56
23	Metropolitan RV Co 2	--	--	--	--	--	--	--	--
24	Perris Valley	357	0.155	0.121	0.119	1	7	47	59
25	Lake Elsinore	345	0.154*	0.137*	0.113*	2*	7*	35*	52
29	Banning Airport	365	0.166	0.146	0.127	3	27	63	64
30	Coachella Valley 1**	359	0.141	0.111	0.108	0	4	44	49
30	Coachella Valley 2**	365	0.123	0.105	0.102	0	0	19	24
SAN BERNARDINO (SB) COUNTY									
32	Northwest SB Valley	365	0.155	0.134	0.116	2	15	35	48
33	Southwest SB Valley	--	--	--	--	--	--	--	--
34	Central SB Valley 1	351	0.176	0.148	0.134	7	26	48	65
34	Central SB Valley 2	358	0.160	0.137	0.123	4	19	45	59
35	East SB Valley	365	0.174	0.153	0.138	12	38	72	91
37	Central SB Mountains	341	0.163*	0.142*	0.130*	6*	34*	74*	84*
38	East SB Mountains	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM			0.194	0.153	0.138	15	38	74	91
SOUTH COAST AIR BASIN			0.194	0.153	0.138	36	68	119	133

KEY:

ppm = parts per million parts of air, by volume	* Less than 12 full months of data. May not be representative.
-- = Pollutant not monitored	** Salton Sea Air Basin

Table 3-2 (Continued)
2003 Air Quality Data – South Coast Air Quality Management District

NITROGEN DIOXIDE (NO_2)				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (ppm, 1-hour[b])	Annual Average[b] AAM Conc. (ppm)
LOS ANGELES COUNTY				
1	Central Los Angeles	361	0.16	0.0338
2	Northwest Coast Los Angeles County	352	0.12	0.0231
3	Southwest Coast Los Angeles County	363	0.12	0.0238
4	South Coast Los Angeles County	341	0.14*	0.0288*
6	West San Fernando Valley	364	0.13*	0.0260*
7	East San Fernando Valley	344	0.14*	0.0356*
8	West San Fernando Valley	356	0.14	0.0322
9	East San Gabriel Valley 1	347	0.12*	0.0296*
9	East San Gabriel Valley 2	361	0.12	0.0271
10	Pomona/Walnut Valley	365	0.12	0.0352
11	South San Gabriel Valley	360	0.14	0.0353
12	South Central Los Angeles County	356	0.13	0.0312
13	Santa Clarita Valley	363	0.12	0.0221
ORANGE COUNTY				
16	North Orange County	361	0.16	0.0284
17	Central Orange County	362	0.13	0.0240
18	North Coastal Orange County	362	0.11	0.0199
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Norco/Corona	--	--	--
23	Metropolitan Riverside County 1	360	0.09	0.0217
23	Metropolitan Riverside County 2	--	--	--
24	Perris Valley	--	--	--
25	Lake Elsinore	328	0.08*	0.0182*
29	Banning Airport	346	0.09*	0.0193*
30	Coachella Valley 1**	347	0.06*	0.0173*
30	Coachella Valley 2**	--	--	--
SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	363	0.11	0.0349
33	Southwest San Bernardino Valley	--	--	--
34	Central San Bernardino Valley 1	355	0.12	0.0307
34	Central San Bernardino Valley 2	362	0.10	0.0270
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM			0.16	0.0356
SOUTH COAST AIR BASIN			0.16	0.0356

KEY:

ppm = parts per million parts of air, by volume	* Less than 12 full months of data. May not be representative.
AAM = Annual Arithmetic Mean	** Salton Sea Air Basin
-- = Pollutant not monitored	

[b] The state standard (1-hour average NO_2 > 0.25 ppm) and the federal standard (AAM NO_2 > 0.0534 ppm) were not exceeded.

Table 3-2 (Continued)
2003 Air Quality Data – South Coast Air Quality Management District

SULFUR DIOXIDE (SO_2)				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Maximum Concentration[c] (ppm, 1-hour)	Maximum Concentration[c] (ppm, 24-hour)
LOS ANGELES COUNTY				
1	Central Los Angeles	349	0.05*	0.006*
2	Northwest Coast Los Angeles County	--	--	--
3	Southwest Coast Los Angeles County	365	0.03	0.006
4	South Coast Los Angeles County	361	0.03	0.008
6	West San Fernando Valley	--	--	--
7	East San Fernando Valley	338	0.01*	0.005*
8	West San Fernando Valley	--	--	--
9	East San Gabriel Valley 1	--	--	--
9	East San Gabriel Valley 2	--	--	--
10	Pomona/Walnut Valley	--	--	--
11	South San Gabriel Valley	--	--	--
12	South Central Los Angeles County	--	--	--
13	Santa Clarita Valley	--	--	--
ORANGE COUNTY				
16	North Orange County	--	--	--
17	Central Orange County	--	--	--
18	North Coastal Orange County	354	0.02	0.012
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Norco/Corona	--	--	--
23	Metropolitan Riverside County 1	363	0.02	0.012
23	Metropolitan Riverside County 2	--	--	--
24	Perris Valley	--	--	--
25	Lake Elsinore	--	--	--
29	Banning Airport	--	--	--
30	Coachella Valley 1**	--	--	--
30	Coachella Valley 2**	--	--	--
SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	--	--	--
33	Southwest San Bernardino Valley	--	--	--
34	Central San Bernardino Valley 1	361	0.01	0.004
34	Central San Bernardino Valley 2	--	--	--
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains			
DISTRICT MAXIMUM			0.05	0.012
SOUTH COAST AIR BASIN			0.05	0.012

KEY:

ppm = parts per million parts of air, by volume	* Less than 12 full months of data. May not be representative.
AAM = Annual Arithmetic Mean	** Salton Sea Air Basin
-- = Pollutant not monitored	

[c] The state standards (1-hour average SO_2 > 0.25 ppm and 24-hour average SO_2 > 0.04 ppm) and the federal standards (AAM SO_2 > 0.03 ppm, 24-hour average SO_2 > 0.14 ppm, and 3-hour average SO_2 > 0.50 ppm) were not exceeded.

Table 3-2 (Continued)
2003 Air Quality Data – South Coast Air Quality Management District

SUSPENDED PARTICULATE MATTER PM10 [d]						
				No. (%) Samples Exceeding Standard		
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (µg/m^3, 24-hour)	Federal > 150 µg/m^3, 24-hour	State > 50 µg/m^3, 24-hour	Annual Average[e] AAM Conc. (µg/m^3)
LOS ANGELES COUNTY (Co)						
1	Central Los Angeles	61	81	0	6(9.8)	34.6
2	NW Coast Los Angeles County	--	--	--	--	--
3	SW Coast Los Angeles County	61	58	0	3(4.9)	29.7
4	South Coast Los Angeles County	61	63	0	4(6.6)	32.8
6	West San Fernando Valley	--	--	--	--	--
7	East San Fernando Valley	50	81*	0*	7(14.0)*	38.1*
8	West San Fernando Valley	--	--	--	--	--
9	East San Gabriel Valley 1	60	119	0	21(35.0)	44.4
9	East San Gabriel Valley 2	--	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--	--
11	South San Gabriel Valley	--	--	--	--	--
12	South Central Los Angeles County	--	--	--	--	--
13	Santa Clarita Valley	61	72	0	10(16.4)	31.8
ORANGE COUNTY						
16	North Orange County	--	--	--	--	--
17	Central Orange County	61	96	0	6(9.8)	32.7
18	North Coastal Orange County	--	--	--	--	--
19	Saddleback Valley	57	64	0	2(3.5)	26.7
RIVERSIDE COUNTY						
22	Norco/Corona	58	116	0	15(25.9)	40.5
23	Metropolitan Riverside County 1	109	164	2(1.8)	62(56.9)	56.9
23	Metropolitan Riverside County 2	--	--	--	--	--
24	Perris Valley	58	142	0	19(32.8)	43.9
25	Lake Elsinore	--	--	--	--	--
29	Banning Airport	60	79	0	9(15.0)	29.0
30	Coachella Valley 1**	60	108	0	4(6.7)	27.1
30	Coachella Valley 2**	112	124$^+$	0$^+$	47(42.0)$^+$	50.2$^+$
SAN BERNARDINO COUNTY						
32	NW San Bernardino Valley	--	--	--	--	--
33	SW San Bernardino Valley	62	149	0	18(29.0)	42.9
34	Central San Bernardino Valley 1	50	101*	0*	27(54.0)*	47.2*
34	Central San Bernardino Valley 2	59	98	0	23(39.0)	44.9
35	East San Bernardino Valley	58	92	0	15(25.9)	37.0
37	Central San Bernardino Mountains	50	47*	0*	0*	25.6*
38	East San Bernardino Mountains	--	--	--	--	--
DISTRICT MAXIMUM			164	2	62	56.9
SOUTH COAST AIR BASIN			164	2	69	56.9

KEY:

µg/m^3 = micrograms per cubic meter	-- = Pollutant not monitored
AAM = Annual Arithmetic Mean	** Salton Sea Air Basin

d PM10 samples were collected every six days at all sites except for Station Numbers 4144 and 4157 where samples were collected every three days.

e The federal standard is AAM PM10 > 50 µg/m^3 and the state standard is AAM PM10 > 20 µg/ m^3 (replaced the annual geometric mean AGM PM10 > 30 µg/ m^3 effective July 5, 2003).

+ The data for five samples collected on high-wind days (178 µg/ m^3 on 01/06/03, 132 µg/ m^3 on 02/02/03, 227 µg/ m^3 on 05/15/03, 148 µg/ m^3 on 06/20/03, and 309 µg/ m^3 on 06/23/03 were excluded in accordance with EPA's Natural Events Policy.

Table 3-2 (Continued)
2003 Air Quality Data – South Coast Air Quality Management District

SUSPENDED PARTICULATE MATTER PM2.5 [f]					
				No. (%) Samples Exceeding Standard	Annual Averages[g]
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (µg/m^3, 24-hour)	Federal > 65 µg/m^3, 24-hour	AAM Conc. (µg/m^3)
LOS ANGELES COUNTY					
1	Central Los Angeles	330	83.7	5(1.5)	21.3
2	Northwest Coast Los Angeles County	--	--	--	--
3	Southwest Coast Los Angeles County	--	--	--	--
4	South Coast Los Angeles County	324	115.2	3(0.9)	18.0
6	West San Fernando Valley	115	47.5	0	16.4
7	East San Fernando Valley	92	120.6	1(1.1)	20.9
8	West San Fernando Valley	110	89.0	1(0.9)	18.6
9	East San Gabriel Valley 1	314	121.2	3(1.0)	19.2
9	East San Gabriel Valley 2	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--
11	South San Gabriel Valley	111	90.3	1(0.9)	20.6
12	South Central Los Angeles County	117	54.8	0	20.2
13	Santa Clarita Valley	--	--	--	--
ORANGE COUNTY					
16	North Orange County	--	--	--	--
17	Central Orange County	340	115.5	3(0.9)	17.3
18	North Coastal Orange County	--	--	--	--
19	Saddleback Valley	109	50.6	0	13.1
RIVERSIDE COUNTY					
22	Norco/Corona	--	--	--	--
23	Metropolitan Riverside County 1	350	104.3	8(2.3)	24.9
23	Metropolitan Riverside County 2	116	73.3	1(0.9)	22.6
24	Perris Valley	--	--	--	--
25	Lake Elsinore	--	--	--	--
29	Banning Airport	--	--	--	--
30	Coachella Valley 1**	112	21.2	0	9.0
30	Coachella Valley 2**	118	26.8	0	11.4
SAN BERNARDINO COUNTY					
32	Northwest San Bernardino Valley	--	--	--	--
33	Southwest San Bernardino Valley	118	88.9	3(2.5)	23.8
34	Central San Bernardino Valley1	111	98.1	1(0.9)	21.8
34	Central San Bernardino Valley2	119	73.9	1(0.8)	22.2
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	55	35.0	0	10.5
DISTRICT MAXIMUM			121.2	8	24.9
SOUTH COAST AIR BASIN			121.2	14	24.9

KEY:

µg/m^3 = micrograms per cubic meter	-- = Pollutant not monitored
AAM = Annual Arithmetic Mean	** Salton Sea Air Basin

f PM2.5 samples were collected every three days at all sites except for Station Numbers 060, 072, 087, 3176, and 4144 where samples were taken every day, and Station Number 5818 where samples were taken every six days.

g The federal standard is AAM PM2.5 > 15 µg/m^3 and the state standard is AAM PM2.5 > 12 µg/m^3 (new standard, established July 5, 2003).

Table 3-2 (Continued)
2003 Air Quality Data – South Coast Air Quality Management District

TOTAL SUSPENDED PARTICULATES TSP [h]				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. (µg/m^3, 24-hour)	Annual Average AAM Conc. (µg/m^3)
LOS ANGELES COUNTY (Co)				
1	Central Los Angeles	61	157	73.5
2	Northwest Coast Los Angeles Co	59	114	49.4
3	Southwest Coast Los Angeles Co	61	122	56.7
4	South Coast Los Angeles Co	64	159	63.9
6	West San Fernando Valley	--	--	--
7	East San Fernando Valley	--	--	--
8	West San Fernando Valley	59	111	54.3
9	East San Gabriel Valley 1	55	176	83.9
9	East San Gabriel Valley 2	--	--	--
10	Pomona/Walnut Valley	--	--	--
11	South San Gabriel Valley	60	160	75.4
12	South Central Los Angeles Co	60	449	105.2
13	Santa Clarita Valley	--	--	--
ORANGE COUNTY				
16	North Orange County	--	--	--
17	Central Orange County	--	--	--
18	North Coastal Orange County	--	--	--
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Norco/Corona	--	--	--
23	Metropolitan Riverside County 1	58	283	105.6
23	Metropolitan Riverside County 2	60	225	85.0
24	Perris Valley	--	--	--
25	Lake Elsinore	--	--	--
29	Banning Airport	--	--	--
30	Coachella Valley 1**	--	--	--
30	Coachella Valley 2**	--	--	--
SAN BERNARDINO COUNTY				
32	NW San Bernardino Valley	60	269	69.6
33	SW San Bernardino Valley	--	--	--
34	Central San Bernardino Valley 1	59	335	119.8
34	Central San Bernardino Valley 2	60	242	97.8
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM			449	119.8
SOUTH COAST AIR BASIN			449	119.8

KEY:

µg/m^3 = micrograms per cubic meter	-- = Pollutant not monitored
AAM = Annual Arithmetic Mean	** Salton Sea Air Basin

h Total suspended particulates, lead, and sulfates were determined from samples collected every six days by the high volume sampler method, on glass fiber filter media.

Table 3-2 (Concluded)
2003 Air Quality Data – South Coast Air Quality Management District

		LEAD [i]		SULFATES (SOx) [i]	
Source Receptor Area No.	Location of Air Monitoring Station	Max. Monthly Average Conc.[j] ($\mu g/m^3$)	Max. Quarterly Average Conc.[j] ($\mu g/m^3$)	Max. Conc. ($\mu g/m^3$, 24-hour)	No. (%) Samples Exceeding State Standard $\geq$ 25 $\mu g/m^3$, 24-hour
LOS ANGELES COUNTY (Co)					
1	Central Los Angeles	0.15	0.15	14.6	0
2	Northwest Coast Los Angeles Co	--	--	14.3	0
3	Southwest Coast Los Angeles Co	0.17	0.10	16.4	0
4	South Coast Los Angeles Co	--	0.05	17.8	0
6	West San Fernando Valley	--	--	--	--
7	East San Fernando Valley	--	--	--	--
8	West San Fernando Valley	--	--	12.7	0
9	East San Gabriel Valley 1	--	--	11.7	0
9	East San Gabriel Valley 2	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--
11	South San Gabriel Valley	0.05	0.04	14.4	0
12	South Central Los Angeles Co	0.04	0.04	14.9	0
13	Santa Clarita Valley	--	--	--	--
ORANGE COUNTY					
16	North Orange County	--	--	--	--
17	Central Orange County	--	--	--	--
18	North Coastal Orange County	--	--	--	--
19	Saddleback Valley	--	--	--	--
RIVERSIDE COUNTY					
22	Norco/Corona	--	--	--	--
23	Metropolitan Riverside County 1	0.02	0.02	10.1	0
23	Metropolitan Riverside County 2	0.02	0.01	10.0	0
24	Perris Valley	--	--	--	--
25	Lake Elsinore	--	--	--	--
29	Banning Airport	--	--	--	--
30	Coachella Valley 1**	--	--	--	--
30	Coachella Valley 2**	--	--	--	--
SAN BERNARDINO COUNTY					
32	NW San Bernardino Valley	0.02	0.02	11.8	0
33	SW San Bernardino Valley	--	--	--	--
34	Central San Bernardino Valley 1	--	--	11.9	0
34	Central San Bernardino Valley 2	0.14	0.08	12.1	0
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--
DISTRICT MAXIMUM		0.17	0.15	17.8	0
SOUTH COAST AIR BASIN		0.17	0.15	17.8	0

KEY:

$\mu g/m^3$ = micrograms per cubic meter	** Salton Sea Air Basin
-- = Pollutant not monitored	

i Total suspended particulates, lead, and sulfate were determined from samples collected every six days by the high volume sampler method, on glass fiber filter media.

j The federal standard (quarterly average lead > 1.5 $\mu g/m^3$) and the state standard (monthly average lead $\geq$ 1.5 $\mu g/m^3$) were not exceeded. In 2003, special monitoring immediately downwind of stationary sources of lead was carried out at four locations. The maximum monthly average lead concentration measured 0.35 $\mu g/m^3$ and the maximum quarterly average lead concentration measured 0.29 $\mu g/m^3$, both recorded in Central Los Angeles.

Carbon Monoxide

CO is a colorless, odorless gas formed by the incomplete combustion of fuels. CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs in the body. The ambient air quality standard for carbon monoxide is intended to protect persons whose medical condition already compromises their circulatory systems' ability to deliver oxygen. These medical conditions include certain heart ailments, chronic lung diseases, and anemia. Persons with these conditions have reduced exercise capacity even when exposed to relatively low levels of CO. Fetuses are at risk because their blood has an even greater affinity to bind with CO. Smokers are also at risk from ambient CO levels because smoking increases the background level of CO in their blood.

CO was monitored at 23 locations in the district in 2002. The federal and state eight-hour CO standards were exceeded at one location. The highest eight-hour average CO concentration of the year (10.1 ppm) was 106 percent of the federal standard. Source/Receptor Area No. 12, South Central Los Angeles County (Station No. 084), was the only location to report one day exceedances of both the federal and state CO standards in 2002.

Ozone

Unlike primary criteria pollutants that are emitted directly from an emissions source, ozone is a secondary pollutant. It is formed in the atmosphere through a photochemical reaction of VOC, NOx, oxygen, and other hydrocarbon materials with sunlight.

Ozone is a deep lung irritant, causing the passages to become inflamed and swollen. Exposure to ozone produces alterations in respiration, the most characteristic of which is shallow, rapid breathing and a decrease in pulmonary performance. Ozone reduces the respiratory system's ability to fight infection and to remove foreign particles. People who suffer from respiratory diseases such as asthma, emphysema, and chronic bronchitis are more sensitive to ozone's effects. In severe cases, ozone is capable of causing death from pulmonary edema. Early studies suggested that long-term exposure to ozone results in adverse effects on morphology and function of the lung and acceleration of lung-tumor formation and aging. Ozone exposure also increases the sensitivity of the lung to bronchoconstrictive agents such as histamine, acetylcholine, and allergens.

The national ozone ambient air quality standard is exceeded far more frequently in the SCAQMD's jurisdiction than almost every other area in the United States[5]. In the past few years, ozone air quality has been the cleanest on record in terms of maximum concentration and number of days exceeding the standards and episode levels. Ozone levels were monitored at 28 locations in 2002. Maximum one-hour average and eight-hour average ozone concentrations in 2002 (0.169 ppm and 0.145 ppm) were 141 percent and 181 percent of the federal one-hour and eight-hour standards, respectively. Ozone concentrations exceeded the one-hour state standard at all, but four of the monitored locations in 2002.

In 1997, the EPA promulgated a new NAAQS for ozone. Soon thereafter, a court decision ordered that the EPA could not enforce the new standard until adequate justification for the

[5] It should be noted that in 1999 and 2000 Houston, Texas exceeded the federal ozone standards on more occasions than the district and reported the highest ozone concentrations in the nation.

new standard was provided. The EPA appealed the decision to the Supreme Court. On February 27, 2001, the Supreme Court upheld EPA's authority and methods to establish clean air standards. The Supreme Court, however, ordered EPA to revise its implementation plan for the new ozone standard. Meanwhile, CARB and local air districts continue to collect technical information in order to prepare for an eventual SIP to reduce unhealthful levels of ozone in areas violating the new federal standard. California has previously developed a SIP for the current ozone standard, which has been approved by EPA for the South Coast Air Basin.

Nitrogen Dioxide

NO2 is a brownish gas that is formed in the atmosphere through a rapid reaction of the colorless gas nitric oxide (NO) with atmospheric oxygen. NO and NO2 are collectively referred to as NOx. NO2 can cause health effects in sensitive population groups such as children and people with chronic lung diseases. It can cause respiratory irritation and constriction of the airways, making breathing more difficult. Asthmatics are especially sensitive to these effects. People with asthma and chronic bronchitis may also experience headaches, wheezing and chest tightness at high ambient levels of NO2. NO2 is suspected to reduce resistance to infection, especially in young children.

By 1991, exceedances of the federal standard were limited to one location in Los Angeles County. The Basin was the only area in the United States classified as nonattainment for the federal NO2 standard under the 1990 Clean Air Act Amendments (CAA). No location in the area of SCAQMD's jurisdiction has exceeded the federal standard since 1992 and the South Coast Air Basin was designated attainment for the national standard in 1998. In 2002, 23 stations monitored NO2 levels in the district and the maximum annual arithmetic mean (AAM) was 0.0402 ppm which represents 75 percent of the federal standard (the federal standard is an AAM of NO2 greater than 0.0534 ppm.). The more stringent one-hour state standard (0.25 ppm) was exceeded for one day in Source/Receptor Area No. 7, East San Fernando Valley (Station No. 069) in year 2002. Despite declining NOx emissions over the last decade, further NOx emissions reductions are necessary to ensure no further exceedances of the NO2 standard and because NOx emissions are PM10 and ozone precursors.

Sulfur Dioxide

SO2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms and difficulty in breathing for children. In 2002, seven locations monitored SO2 levels and neither the state nor the federal standards were exceeded. Though SO2 concentrations have been reduced to levels well below state and federal standards, further reductions in emissions of SO2 are needed because it is a precursor for sulfates, PM10, and PM2.5.

Particulate Matter (PM10)

PM10 is defined as suspended particulate matter measuring 10 microns or less in diameter and includes a complex mixture of man-made and natural substances including sulfates, nitrates, metals, elemental carbon, sea salt, soil, organics and other materials. PM10 may have adverse health impacts because these microscopic particles are able to penetrate deeply into the respiratory system. In some cases, the particulates themselves may cause actual damage to the alveoli of the lungs or they may contain adsorbed substances that are

injurious. Children can experience a decline in lung function and an increase in respiratory symptoms from PM10 exposure. People with influenza, chronic respiratory disease and cardiovascular disease can be at risk of aggravated illness from exposure to fine particles. Increases in death rates have been statistically linked to corresponding increases in PM10 levels.

In 2003, PM10 was monitored at 19 locations in the district. There were two exceedances of the federal 24-hour standard (150 μg/m3), while the state 24-hour standard (50 μg/m3) was exceeded at all 19 monitored locations. The federal standard (AAM greater than 50 μg/m3) was exceeded in two locations.

Particulate Matter (PM2.5)

In 1997, the USEPA promulgated a new national ambient air quality standard for PM2.5, particulate matter 2.5 microns or less in diameter. The PM2.5 standard is a subset of PM10 such that it complements existing national and state ambient air quality standards that target the full range of inhalable PM10. In addition to the health effects for PM10, additional effects from exposure to PM2.5 may result in increased hospital admissions and emergency room visits for heart and lung disease, increased respiratory symptoms and disease, decreased lung functions, and premature death.

The SCAQMD began regular monitoring of PM2.5 in 1999. In 2003, concentrations of PM2.5 were monitored at 18 locations throughout the district. The federal 24-hour standard (65 $\mu g/m^3$) was exceeded at 12 locations. The federal standard (AAM greater than 15 $\mu g/m^3$) was exceeded in 14 locations, and the state standard (AAM greater than 12 $\mu g/m^3$) was exceeded in 15 locations.

Lead

Lead concentrations once exceeded the state and national ambient air quality standards by a wide margin, but have not exceeded state or federal standards at any regular monitoring station since 1982. Though special monitoring sites immediately downwind of lead sources recorded very localized violations of the state standard in 1994, no violations were recorded at these stations since that time.

Sulfates

Sulfates or SOx are a group of chemical compounds containing the sulfate group, which is a sulfur atom with four oxygen atoms attached. Though not exceeded in 1993, 1996, 1997, and 1998, the 24-hour state sulfate standard (25 $\mu g/m^3$) was exceeded at three locations in 1994 and one location in 1995, 1999, 2000 and 2001. There are no federal air quality standards for sulfate.

Visibility Reducing Particles

Since deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality, the state of California has adopted a standard for visibility or visual range. Until 1989, the standard was based on visibility estimates made by human observers. The standard was changed to require measurement of visual range using instruments that measure light scattering and absorption by suspended particles.

Volatile Organic Compounds

It should be noted that there are no state or national ambient air quality standards for VOCs because they are not classified as criteria pollutants. VOCs are regulated, however, because limiting VOC emissions reduces the rate of photochemical reactions that contribute to the formation of ozone. They are also transformed into organic aerosols in the atmosphere, contributing to higher PM10 and lower visibility levels.

Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, one hydrocarbon component of VOC emissions, is known to be a human carcinogen.

Non-Criteria Pollutant Emissions

Although the SCAQMD's primary mandate is attaining both the state ambient air quality standards and the NAAQS for criteria pollutants within the district, SCAQMD also has a general responsibility pursuant to the Health and Safety Code §41700 to control emissions of air contaminants and prevent endangerment to public health. As a result, over the last few years the SCAQMD has regulated pollutants other than criteria pollutants such as TACs, greenhouse gases and stratospheric ozone depleting compounds. The SCAQMD has developed a number of rules to control non-criteria pollutants from both new and existing sources. These rules originated through state directives, CAA requirements, or the SCAQMD rulemaking process.

In addition to promulgating non-criteria pollutant rules, the SCAQMD has been evaluating AQMP control measures as well as existing rules to determine whether or not they would affect, either positively or negatively, emissions of non-criteria pollutants. For example, rules in which VOC components of coating materials are replaced by a non-photochemically reactive chlorinated substance would reduce the impacts resulting from ozone formation, but could increase emissions of toxic compounds or other substances that may have adverse impacts on human health.

Tables 3-3, 3-4, 3-5 and 3-6 lists some key ingredients that are used in various PVC and CPVC primers, ABS welding solvents, sheet plastic welding solvents, and top and trim adhesives; and whether those ingredients are regulated under Rule 1401 - New Source Review of Toxic Air Contaminants. It is important to note that this table does not represent all of the ingredients used to manufacture PVC and CPVC primers, ABS welding cements and sheet plastic welding solvents. Of the ingredients listed in Tables 3-3, 3-4, 3-5 and 3-6 one ingredient, methylene, is regulated for carcinogenic risk, chronic (long-term non-cancer) risk and acute (short-term non-cancer) risk, one ingredient, methyl ethyl ketone, is regulated for its acute risk.

Table 3-3
Typical Ingredients Found in PVC and CPVC Primer

Ingredients	CAS #	Weight (percent)	Rule 1401 Regulated Health Impacts	Significance Threshold (at 25 meters)
Methyl Ethyl Ketone	78-93-3	15-20%	Acute Non-Cancer	6.50 lb/hr
Tetrahydrofuran	109-99-9	20-30%	Not Listed	Not Listed
Cyclohexanone	108-94-1	30-40%	Not Listed	Not Listed
Acetone	67-64-1	5-15%	Not Listed	Not Listed

Table 3-4
Typical Ingredients Found in ABS Cements

Ingredients	CAS #	Weight (percent)	Rule 1401 Regulated Health Impacts	Significance Threshold (at 25 meters)
Methyl Ethyl Ketone	78-93-3	25-65%	Acute Non-Cancer	Not Listed
Acetone	67-64-1	5-15%	Not Listed	Not Listed

Table 3-5
Typical Ingredients Found in Sheet Plastic Welding

Ingredients	CAS #	Weight (percent)	Rule 1401 Regulated Health Impacts	Significance Threshold (at 25 meters)
Methylene Chloride	75-09-02	40-65%	Carcinogen Chronic Non-Cancer; Acute Non-Cancer	33.06 lb/yr 7 lb/hr
Methyl Acetate	79-20-9	10-50%	Not Listed	Not Listed

Table 3-6
Typical Ingredients Found in Top and Trim Adhesives

Ingredients	CAS #	Weight (percent)	Rule 1401 Regulated Health Impacts	Significance Threshold (at 25 meters)
Acetone	67-64-1	< 75	Not Listed	Not Listed
Cyclohexane	110-82-7	5	Not Listed	Not Listed
Cyclohexanone	108-94-1	3 – 7	Not Listed	Not Listed
Dimethyl Ether	115-10-6	10	Not Listed	Not Listed
Hexane	110-54-3	< 20	Chronic Non-Cancer	231,000 lbs/yr
Light Aliphatic Naphtha	64742-89-8	< 25	Not Listed	Not Listed
Methyl Acetate	79-20-9	7 - 13	Not Listed	Not Listed
Propane	74-98-6	< 20	Not Listed	Not Listed
Toluene	108-88-3	< 10	Chronic Non-Cancer; Acute Non-Cancer	9,920 lbs/yr 18.5 lbs/hr
Zinc Oxide	1314-13-2	< 1.5	Not Listed*	Not Listed*

* This compound is not classified in Rule 1401 as carcinogenic, but it has a chronic risk value proposed by OEHHA that has not yet been finalized.

The following sections summarize the existing setting for the two major categories of non-criteria pollutants: compounds that contribute to ozone depletion and global warming, and TACs.

Ozone Depletion and Global Warming

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the AQMP.

In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- phase out the use and corresponding emissions of chlorofluorocarbons (CFCs), methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons (HCFCs) by the year 2000;
- develop recycling regulations for HCFCs;
- develop an emissions inventory and control strategy for methyl bromide; and
- support the adoption of a California greenhouse gas emission reduction goal.

In support of these polices, the SCAQMD Governing Board has adopted several rules to reduce ozone depleting compounds. Several other rules concurrently reduce global warming gases and criteria pollutants.

On March 17, 2000, the SCAQMD Governing Board approved "An Air Toxics Control Plan for the Next Ten Years." The Air Toxics Control Plan identifies potential strategies to reduce toxic levels in the Basin over the ten years following adoption. To the extent the strategies are implemented by the relative agencies, the plan will improve public health by reducing health risks associated with both mobile and stationary sources. Exposure to toxic air contaminants can increase the risk of contracting cancer or result in other deleterious health effects which target such systems as cardiovascular, reproductive, hematological, or nervous. The health effects may be through short-term, high-level or "acute" exposure or long-term, low-level or "chronic" exposure.

Toxic Air Contaminants

Historically, the SCAQMD has regulated criteria air pollutants using either a technology-based or an emissions limit approach. The technology-based approach defines specific control technologies that may be installed to reduce pollutant emissions. The emission limit approach establishes an emission limit, and allows industry to use any emission control equipment, as long as the emission requirements are met. The regulation of toxic air contaminants (TACs) requires a similar regulatory approach as explained in the following subsections.

Control of TACs Under the TAC Identification and Control Program

California's TAC identification and control program, adopted in 1983 as Assembly Bill (AB) 1807, is a two-step program in which substances are identified as TACs, and airborne toxic control measures (ATCMs) are adopted to control emissions from specific sources. CARB has adopted a regulation designating all 188 federal hazardous air pollutants (HAPs) as TACs.

ATCMs are developed by CARB and implemented by the SCAQMD and other air districts through the adoption of regulations of equal or greater stringency. Generally, the ATCMs reduce emissions to achieve exposure levels below a determined health threshold. If no such threshold levels are determined, emissions are reduced to the lowest level achievable through the best available control technology unless it is determined that an alternative level of emission reduction is adequate to protect public health.

Under California state law, a federal National Emission Standard for Hazardous Air Pollutants (NESHAP) automatically becomes a state ATCM, unless CARB has already adopted an ATCM for the source category. Once a NESHAP becomes an ATCM, CARB and the air pollution control or air quality management district have certain responsibilities related to adoption or implementation and enforcement of the NESHAP/ATCM.

Control of TACs Under the Air Toxics "Hot Spots" Act

The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB2588) establishes a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with the emissions. Facilities are phased into the AB2588 program based on their emissions of criteria pollutants or their occurrence on lists of toxic emitters compiled by the SCAQMD. Phase I consists of facilities that emit over 25 tons per year of any criteria pollutant and facilities present on the SCAQMD's toxics list. Phase I facilities entered the program by reporting their air TAC emissions for calendar year 1989. Phase II consists of facilities that emit between 10 and 25 tons per year of any criteria pollutant, and submitted air toxic inventory reports for calendar

year 1990 emissions. Phase III consists of certain designated types of facilities which emit less than 10 tons per year of any criteria pollutant, and submitted inventory reports for calendar year 1991 emissions. Inventory reports are required to be updated every four years under the state law.

In October 1992, the SCAQMD Governing Board first adopted public notification procedures specifically for Phase I and II facilities by amending Rule 212 - Standards For Approving Permits and Issuing Public Notice. These procedures require AB2588 facilities to provide public notice when exceeding the following risk levels:

- Maximum Individual Cancer Risk: greater than 10 in 1 million (10×10^{-6})
- Total Hazard Index: greater than 1.0 for TACs except lead, or > 0.5 for lead

Public notice is to be provided by letters mailed to all addresses and all parents of children attending school in the impacted area. In addition, facilities must hold a public meeting and provide copies of the facility risk assessment in all school libraries and a public library in the impacted area.

The SCAQMD continues to complete its review of the health risk assessments submitted to date and may require revision and resubmission as appropriate before final approval. Notification will be required from facilities with a significant risk under the AB2588 program based on their initial approved health risk assessments and will continue on an ongoing basis as additional and subsequent health risk assessments are reviewed and approved.

Control of TACs With Risk Reduction Audits and Plans

Senate Bill (SB) 1731, enacted in 1992 and codified at Health and Safety Code §44390 et seq., amended AB2588 to include a requirement for facilities with significant risks to prepare and implement a risk reduction plan which will reduce the risk below a defined significant risk level within specified time limits. SCAQMD Rule 1402 - Control of Toxic Air Contaminants From Existing Sources, was adopted on April 8, 1994, to implement the requirements of SB1731.

In addition to the TAC rules adopted by SCAQMD under authority of AB1807 and SB1731, the SCAQMD has adopted source-specific TAC rules, based on the specific level of TACs emitted and the needs of the area. These rules are similar to the state's ATCMs because they are source-specific and only address emissions and risk from specific compounds and operations.

Cancer Risks from Toxic Air Contaminants

New and modified sources of toxic air contaminants in the SCAQMD are subject to Rule 212 and Rule 1401. Rule 212 requires notification of the SCAQMD's intent to grant a permit to construct a significant project, defined as a new or modified permit unit located within 1000 feet of a school (a state law requirement under AB3205), a new or modified permit unit posing an maximum individual cancer risk of one in one million (1×10^{-6}) or greater, or a new or modified facility with criteria pollutant emissions exceeding specified daily maximums. Distribution of notice is required to all addresses within a 1/4-mile radius, or other area deemed appropriate by the SCAQMD. Rule 1401 currently controls emissions of carcinogenic and non-carcinogenic (health effects other than cancer) air contaminants

from new, modified and relocated sources by specifying limits on cancer risk and hazard index (explained further below), respectively.

Health Effects

One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of causing cancer. It is currently estimated that about one in four deaths in the United States is attributable to cancer. About two percent of cancer deaths in the United States may be attributable to environmental pollution (Doll and Peto 1981). The proportion of cancer deaths attributable to air pollution has not been estimated using epidemiological methods.

Non-Cancer Health Risks from Toxic Air Contaminants

Unlike carcinogens, for most noncarcinogens it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. The California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment develops Reference Exposure Levels (RELs) for TACs which are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The non-cancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the hazard index (HI).

AFFECTED SOURCES

The types of facilities affected by the proposed amendments are installers of automotive and marine top and trim, plumbers and city/county public works municipalities, and several businesses related to fabricating display cases, signage, trophies and aquariums (to name a few) out of sheet plastic.

Nearly all affected industries are area sources in nature, that is, operations that do not require written permits pursuant to Rule 219, because of low spray volumes, or hand applications of solvent cements and solvent welding solutions. Table 3-7 presents an estimate of the number of affected facilities. Table 3-8 presents an estimate of the existing emissions inventory.

Table 3-7
Numbers of Known Industries

Industry Type	Numbers of Operators
Automotive Top and Trim	752
Marine Top and Trim	40
Plumbers	8,000+
Plastic Fabricators	270

Table 3-8
Estimated Existing Emissions Inventory

Industry Type	VOC Emissions (ton/day)	Methylene Chloride Emissions (ton/day)
Top and Trim[1]	0.25	
Plumbers[2]	2.18	
Plastic Fabricators[3]		0.058
Total	**2.43**	**0.058**

1) SCAQMD, Final Subsequent Environmental Assessment, Proposed Rule 1168 – Adhesive and Sealant Application, SCAQMD No. 08070BAR, Table 4-2, September 24, 2003.
2) Appendix B, Table B-1
3) Presentation titled SCAQMD Rule 1168, Methylene Chloride Use in Solvent Cements by manufacturer delivered to SCAQMD on March 23, 2004.

CHAPTER 4

ENVIRONMENTAL IMPACTS

INTRODUCTION

The CEQA Guidelines require environmental documents to identify significant environmental effects that may result from a proposed project [CEQA Guidelines §15126.2(a)]. Direct and indirect significant effects of a project on the environment should be identified and described, with consideration given to both short- and long-term impacts. The discussion of environmental impacts may include, but is not limited to, the resources involved; physical changes; alterations of ecological systems; health and safety problems caused by physical changes; and other aspects of the resource base, including water, scenic quality, and public services. If significant adverse environmental impacts are identified, the CEQA Guidelines require a discussion of measures that could either avoid or substantially reduce any adverse environmental impacts to the greatest extent feasible [CEQA Guidelines §15126.4].

The CEQA Guidelines indicate that the degree of specificity required in a CEQA document depends on the type of project being proposed [CEQA Guidelines §15146]. The detail of the environmental analysis for certain types of projects cannot be as great as for others. For example, the environmental document for projects, such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan, should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the analysis need not be as detailed as the analysis of the specific construction projects that might follow. As a result, this ~~Revised Draft~~ Final SEA analyzes impacts on a regional level and impacts on the level of individual industries or individual facilities where feasible.

The categories of environmental impacts to be studied in a CEQA document are established by CEQA [Public Resources Code, §21000 et seq.], and the CEQA Guidelines, as promulgated by the State of California Secretary of Resources. Under the CEQA Guidelines, there are approximately 17 environmental categories in which potential adverse impacts from a project are evaluated. Projects are evaluated against the environmental categories in an Environmental Checklist and those environmental categories that may be adversely affected by the project are further analyzed in the appropriate CEQA document.

POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Pursuant to CEQA, an NOP/IS and Final EA were prepared for the 2002 amendments to Rule 1168, and these documents are the basis for the preparation of this ~~Revised Draft~~ Final SEA to the current proposed amendments to Rule 1168. Of the 17 potential environmental impact categories previously analyzed, only one (air quality) was concluded to have potentially significant adverse impacts resulting from implementing the 2002 amendments. Further, the current proposed amendments to Rule 1168 are directly related to the analysis for the 2002 amendments because the currently proposed project constitutes a modification of the previously adopted project. Thus, air quality is again expected to be potentially significantly adversely affected by the proposed project.

Therefore, the environmental impact area of air quality is the focus of the subsequent detailed evaluation in this chapter. The environmental impact analysis for air quality incorporates a "worst-case" approach. This entails the premise that whenever the analysis requires that assumptions be made, those assumptions that result in the greatest adverse impacts are typically

chosen. This method ensures that all potential effects of the proposed project are documented for the decision-makers and the public.

Accordingly, the following analyses use a conservative "worst-case" approach for analyzing the potentially significant adverse environmental impacts associated with the implementation of the proposed project.

Air Quality

Under the existing rule, emissions are controlled by limiting the VOC content of the adhesives and sealants used and applied for various types of activities. Rule 1168 also prohibits the use of certain toxic chemicals in adhesives and sealants. The proposal contains the following amendments to Rule 1168:

- Extend the 540 grams per liter interim VOC content limit for top and trim adhesives to January 1, 2007. The effective date for the final VOC content limit of 250 grams per liter for top and trim adhesives under the current rule is January 1, 2005. Therefore, the effective date for the final VOC content limit of 250 grams per liter for top and trim adhesives would be delayed until January 1, 2007.
- Rescind the January 1, 2005, prohibition of methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications. The proposed rule would allow the use of solvent welding formulations containing methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications provided the concentration of methylene chloride does not exceed 60 percent by weight and the purchase of all methylene chloride welding products for hard sheet plastic does not exceed 20 gallons per calendar year at a single facility.
- Rescind the January 1, 2005, 285 grams per liter VOC content limit requirement for solvent cements used to weld polyvinyl chloride (PVC) plastic pipes and fittings, and instead keep the PVC welding VOC content limit requirement at the interim 510 grams per liter.
- Rescind the January 1, 2005, 270 grams per liter VOC content limit requirement for solvent cements used to weld chlorinated polyvinyl chloride (CPVC) plastic pipes and fittings, and instead keep the CPVC welding VOC content limit requirement at the interim 490 grams per liter.
- Rescind the January 1, 2005 VOC content limit requirement for PVC/CPVC primers of 250 grams per liter, and extend the interim VOC content limit requirement for PVC/CPVC primers of 650 grams per liter from the January 1, 2005 effective date to July 1, 2005. On July, 1, 2005, reduce the VOC content limit requirement for PVC/CPVC primers from 650 grams per liter to 550 grams per liter. ~~Replace the January 1, 2005, the VOC content limit requirement for PVC/CPVC primers of 250 grams per liter with a VOC content limit requirement of 550 grams per liter. This new 550 gram per liter VOC content limit is lower that the existing PVC/CPVC primers VOC content limit of 600 grams per liter.~~
- Lower the acrylonitrile-butadiene-styrene (ABS) welding VOC content limit requirement to 325 grams per liter which is currently at 400 grams per liter effective July 1, 2005.

As shown in the following discussion, the proposed amendments to delay, replace and rescind previously described ~~the final~~ VOC content limit requirements ~~for top and trim adhesives for two years, rescind the future VOC content limits of PVC and PCPVC cements, and replace the 250 gram per liter VOC content limit for PVC/CPVC primers with a 550 gram per liter VOC~~

~~content limit is~~ are expected to eliminate VOC emission reductions originally anticipated in the 2002 amendments to Rule 1168. An additional VOC content limit reduction for ABS welding is included in PAR 1168. However, even with the additional VOC reductions for ABS welding, based on the volume of PVC/CPVC cement and primer sold and presumably used, the VOC emission reductions foregone are anticipated to exceed the SCAQMD's daily significance threshold and, thus, the proposed project is expected to have significant adverse air quality impacts. The following discussion also demonstrates that the proposed methylene chloride concentration limit of 60 percent by weight and the proposed facility limit of 20 gallons per year would prevent significant adverse air quality impacts from adhesive formulated with methylene chloride.

Significance Criteria

The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 4-1 are equaled or exceeded.

Construction Emissions

PROJECT-SPECIFIC IMPACT: The implementation of the proposed amended rule will not trigger any construction activity. No add-on control equipment or additional employees will be required from the implementation of the proposed amendments. Additionally, no add-on control equipment will be used to reduce VOC or methylene chloride emissions at affected facilities. The primary effects of the proposed amendments are to allow the continued use of existing adhesive products that comply with the existing VOC content limit requirements of 540 grams per liter for top and trim adhesives, 510 grams per liter for PVC welding and 490 grams per liter for CPVC welding, which would rescind the future January 1, 2005 VOC content limit requirements of 285 grams per liter for PVC welding and 270 grams per liter for CPVC welding. The final VOC content limit of 250 grams per liter for top and trim adhesive would be delayed until January 1, 2007, during which time the interim VOC limit of 540 would remain in place. ~~New~~ A new VOC content limit~~s~~ requirement of 325 grams per liter (currently 400 grams per liter) for ABS cements effective July 1, 2005 would be established by PAR 1168.~~, and the~~ PAR 1168 would rescind the January 1, 2005 VOC content limit requirement of 250 grams per liter for PVC/CPVC primers. After January 1, 2005, the 650 grams per liter interim VOC content limit requirement for PVC/CPVC primers would remain in effect until July 1, 2007 when it would be replaced with a 550 grams per liter VOC content limit requirement.~~ (currently 650 grams per liter) for PVC/CPVC primers would replace the 250 gram per liter VOC content limit~~. Replacing the prohibition of methylene chloride in solvent welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrication with concentration and facility limits would also not require additional construction.

Therefore, no construction and construction air quality impacts are anticipated for implementing PAR 1168.

Table 4-1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
TAC, AHM, and Odor Thresholds		
Toxic Air Contaminants (TACs)	Maximum Incremental Cancer Risk (MICR) $\geq$ 10 in 1 million Hazard Index (HI) $\geq$ 1.0 (project increment) Hazard Index (HI) $\geq$ 3.0 (facility-wide)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Thresholds for Criteria Pollutants		
NO_2 1-hour average Annual average	 20 $\mu g/m^3$ (= 1.0 pphm) 1 $\mu g/m^3$ (= 0.05 pphm	
PM10 24-hour average Annual Geometric Mean	 2.5 µg/m3 1.0 µg/m3	
Sulfate 24-hour average	 1.0 µg/m3	
CO 1-hour average 8-hour average	 1.1 mg/m^3 (= 1.0 ppm) 0.50 mg/m^3 (= 0.45 ppm)	

AHM = Acutely Hazardous Material; TAC = toxic air contaminant; mg/m^3 = milligram per cubic meter; $\mu g/m^3$ = microgram per cubic meter; pphm = parts per hundred million; ppm = parts per million

PROJECT-SPECIFIC MITIGATION: No mitigation required.

Operational Emissions

PROJECT-SPECIFIC IMPACT:

VOC Emissions

Implementation of PAR 1168 is expected to result in VOC emission reductions foregone. Retaining the current VOC content limits for top and trim, PVC and CPVC welding; coupled with the reduction in VOC content for ABS welding and adhesive primers for ~~plastic~~ PVC and CPVC, would forego the 2002 FEA VOC emission reductions. Tables 4-2, 4-3 and 4-4 below summarize the inventory and the emissions foregone, resulting from these proposed amendments. VOC emission limits, emissions inventory, emissions reductions, and emissions foregone for PVC, CPVC, and ABS welding; and PVC and CPVC primer are presented in Table 4-2. Proposed changes to these categories would become permanent if the proposed project is adopted. Top and trim inventory, VOC emission inventory and VOC emission reductions delayed are presented in Table 4-3. This delay in VOC emission reductions is temporary and would end on January 1, 2007. A summary VOC emission reduction foregone for all affected adhesives are presented in Table 4-4. The first column presents the VOC emission reductions foregone in tons per day if final VOC content limits for all affected adhesive categories are rescinded. The second column presents the VOC emission reductions foregone in tons per day that would occur ~~after~~ between January 1, 2005 and July 1, 2005, if the project were approved. The third column presents the VOC emission foregone between July 1, 2005 and January 1, 2007, if the project were approved. The last column presents the VOC emission reductions forgone in tons per day that would occur after January 1, 2007, if the project were approved. The remaining columns present the same information in pounds per day.

Table 4-2
VOC Emissions Limits, Emissions Inventory, and Emissions Foregone

	VOC Limits			VOC Emissions Inventory			Emissions Foregone	
Plastic Welding Type	**Current VOC Content Limits** (gram/liter)	**1/1/2005 FEA VOC Content Limits** (gram/liter)	**Proposed VOC Content Limits** (gram/liter)	**Current Emission Inventory** (ton/day)	**Future Emissions Inventory Based on 1/1/2005 FEA VOC Content Limits[a]** (ton/day)	**Future Emission Inventory Based on 1/1/2005 Proposed VOC Content Limits[b]** (ton/day)	**Emissions Foregone Based on Rescinding FEA VOC Content Limits[c]** (ton/day)	**Emissions Foregone Based on Proposed VOC Content Limits[d]** (ton/day)
PVC	510	285	510	0.569	0.569	0.318	-0.251	-0.251
CPVC	490	270	490	0.174	0.174	0.096	-0.078	-0.078
ABS	400	400	325	0.588	0.478	0.588	0.000	0.110
PVC/CPVC Primer	650	250	550	0.832	0.704	0.320	-0.512	-0.384
Totals				**2.163**	**1.925**	**1.322**	**-0.840**	**-0.600**

[a] Future emission inventory based on 1/1/2005 FEA VOC content limits, ton/day = Current emissions inventory x ((Proposed VOC content limits)/(Current VOC content limits))

[b] Future emission inventory based on 1/1/2005 Proposed VOC content limits, ton/day = Current emissions inventory x ((1/1/2005 FEA VOC content limits)/(Current VOC content limits))

[c] Emissions foregone based rescinding FEA VOC limits (tons/day) = Future emission inventory based on 1/1/2005 proposed limits (ton/day) - Current emission inventory (ton/day)

[d] Emissions foregone based proposed VOC limits (tons/day) = Future emission inventory based on 1/1/2005 proposed limits (ton/day) - Future emissions inventory based on 1/1/2005 FEA VOC limits (ton/day)

Table 4-3
Estimated Top and Trim Adhesives Inventory and VOC Emission Reductions Delayed

Adhesive Type Based on Range of VOC Content	**VOC Content of Material** less water/exempt compounds		**VOC Content of Material, As Applied** less water/exempt compounds		**Adhesive Coverage**	**Estimated Annual Adhesive Inventory Based on Coverage [a]**	**Estimated VOC Emissions [b]**	
	grams /liter	lb/gal	grams /liter	lb/gal	sq. ft./gal	gal/yr	lb/day	ton/day
Interim VOC Limit Adhesive (Current limit post-June 2002)	540	4.50	340	2.83	309	65,194	506	0.253
Final VOC Limit Adhesive (To be in effect January 1, 2007)	250	2.08	125	1.04	625	32,232	92	0.046
Total Estimated VOC Emission Reductions Delayed [c]							**414**	**0.299**

[a] To calculate the estimated annual adhesives usage based on adhesive coverage data, multiply the 'interim VOC adhesive' inventory by a ratio of the interim VOC adhesive coverage to the coverage for the material in question. For example, the calculation of the estimated annual adhesive usage for a compliant adhesive is as follows: 65,194 gal/yr x (309 sq. ft./gal / 625 sq. ft./gal) = 32,232 gal/yr of compliant adhesive

[b] To calculate the 'estimated VOC emissions', multiply the 'VOC content of material, as applied' by the 'estimated annual adhesive inventory based on coverage' and adjust for days and tons, as applicable. For example, for the 'interim VOC limit' adhesive category, the calculation of estimated VOC emissions is as follows: 1.04 lb VOC/gal x 65,194 gal/yr x 1 yr/365 days = 506 lb VOC/day x (1 ton/2000 lb) = 0.253 tons VOC / day

[c] To calculate the 'total estimated VOC emission reductions delayed', subtract the estimated VOC emissions for final VOC limit adhesives from the estimated VOC emissions for interim VOC limit adhesives as follows: 506 lb VOC/day - 92 lb VOC/day = 414 lb VOC/day of emissions reductions delayed

~~Table 4-4~~
~~Summary of Daily VOC Emissions Foregone~~

-	~~Emissions Foregone in Tons per Day~~			~~Emissions Foregone in Pounds per Day~~		
~~Plastic Welding Type~~	~~Emissions Foregone Based on Rescinding FEA VOC Content Limits (ton/day)~~	~~Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2005 (ton/day)~~	~~Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2007 (ton/day)~~	~~Emissions Foregone Based on Rescinding FEA VOC Content Limits (lb/day)~~	~~Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2005 (lb/day)~~	~~Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2007 (lb/day)~~
~~Top and Trim Adhesives~~	~~0.21~~	~~0.21~~	~~0~~	~~420~~	~~420~~	~~0~~
~~PVC Welding~~	~~0.25~~	~~0.25~~	~~0.25~~	~~500~~	~~500~~	~~500~~
~~CPVC Welding~~	~~0.08~~	~~0.08~~	~~0.08~~	~~160~~	~~160~~	~~160~~
~~ABS Welding~~	~~0~~	~~0.11~~	~~0.11~~	~~0~~	~~220~~	~~220~~
~~PVC and CPVC Primer~~	~~0.52~~	~~0.39~~	~~0.39~~	~~1,040~~	~~780~~	~~780~~
~~Totals~~	**~~1.06~~**	**~~0.82~~**	**~~0.61~~**	**~~2,120~~**	**~~1,640~~**	**~~1,220~~**
~~Significance Threshold~~	**~~0.028~~**	**~~0.028~~**	**~~0.028~~**	**~~55~~**	**~~55~~**	**~~55~~**
~~Significant~~	**~~Yes~~**	**~~Yes~~**	**~~Yes~~**	**~~Yes~~**	**~~Yes~~**	**~~Yes~~**

Table 4-4
Summary of Daily VOC Emissions Foregone

	Emissions Foregone in Tons per Day[a]				Emissions Foregone in Pounds per Day[b]			
Plastic Welding Type	**Emissions Foregone Based on Rescinding FEA VOC Content Limits** (ton/day)	**Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2005** (ton/day)	**Emissions Foregone Based on Proposed VOC Content Limits after July 1, 2005** (ton/day)	**Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2007** (ton/day)	**Emissions Foregone Based on Rescinding FEA VOC Content Limits** (lb/day)	**Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2005** (lb/day)	**Emissions Foregone Based on Proposed VOC Content Limits after July 1, 2005** (lb/day)	**Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2007** (lb/day)
Top and Trim Adhesives	-0.207	-0.207	-0.207	0	-414	-414	-414	0
PVC Welding	-0.251	-0.251	-0.251	-0.251	-502	-502	-502	-502
CPVC Welding	-0.078	-0.078	-0.078	-0.078	-156	-156	-156	-156
ABS Welding	0.000	0.000	0.110	0.110	0	0	220	220
PVC and CPVC Primer	-0.512	-0.512	-0.384	-0.384	-1,024	-1,024	-768	-768
Totals	**-1.048**	**-1.048**	**-0.810**	**-0.603**	**-2,096**	**-2,096**	**-1,620**	**-1,206**
Significance Threshold	-	-	-	-	55	55	55	55
Significant	-	-	-	-	**Yes**	**Yes**	**Yes**	**Yes**

a) Emissions foregone in tons per day were estimated in Tables 4-2 and 4-3.
b) Emissions foregone in tons per day were calculated by multiplying emissions foregone in tons per day by 2,000 pounds per ton.

The adhesive inventories, emissions inventories and emission reductions were obtained through research performed during earlier revisions of Rule 1168, based on information supplied by the manufacturers. It is assumed that one can of higher VOC content cement provides coverage for roughly the same number of pipe joints and fittings as low VOC adhesives. However, it is assumed that the top and trim adhesives vary in coverage based on the VOC content. The emission reductions that will not be achieved due to technical infeasibility based on rescinding the VOC content limits for top and trim, and PVC and CPVC welding and primer would be ~~1.06~~ 1.05 tons of VOC per day (~~2,120~~ 2,096 pounds of VOC per day) between January 1, 2005 and ~~January~~ July 1, ~~2007~~2005. With the additional VOC content limits for PVC and CPVC primers and ABS weld solvents proposed by the project, the quantity of VOC reductions foregone would be ~~0.82~~ 0.81 ton of VOC per day (~~1,640~~ 1,620pounds of VOC per day) between ~~January~~ July 1, 2005 and January 1, 2007. ~~Therefore, even with the additional VOC content limits, the proposed project would exceed the SCAQMD VOC significance threshold of 55 pounds per day.~~

After January 1, 2007, the final VOC content limit for top and trim adhesives would become effective. As presented in Table 4-2, 414 pounds of VOC emissions reductions would occur. Therefore, after January 1, 2007, the amount of VOC reductions foregone would become 0.61 ton (~~1,220~~ 1,206 pounds per day)~~,~~. ~~which~~ The VOC emission reductions foregone for all three stages of VOC content limit effective dates would also exceed the SCAQMD VOC significance threshold of 55 pounds per day.

~~Because the amendments result in significant air quality impacts, the modifications proposed in PAR 1168 to the original project (i.e., the 2002 amendments to Rule 1168) are considered to be new information that would result in making the existing significant adverse air quality impacts substantially worse. As a result, in accordance with CEQA Guidelines §15162, this Revised Draft SEA was prepared.~~ A Draft SEA was released on October 13, 2004, that included rescinding the PVC and CPVC welding VOC content limits, revised the PVC/CPVC primer VOC content limits on January 1, 2005, established a new VOC content limit for ABS welding, and replaced the elimination of methylene chloride in hard plastic sheeting cements with a methylene chloride weight and single facility use limit. After the release of the Draft SEA, PAR 1168 was modified to include a two-year delay in the final VOC content limit of 250 grams per liter for top and trim adhesives from January 1, 2005, to January 1, 2007. The delay in the effective date of the final VOC content limit for top and trim adhesives, resulted in increasing the total emissions foregone from 0.85 ton (1,700 pounds) per day to 1.05 ton (2,069 pounds) per day between January 1, 2005, and January 1, 2007. The increase in emissions foregone exceeds the SCAQMD significance threshold of 55 pounds of VOC per day. The Draft SEA included an alternative (Alternative B) that presented and analyzed adverse impacts similar to those proposed by delaying the top and trim adhesives. However, the Draft SEA did not clearly state that the Governing Board may chose any alternative analyzed in the Draft SEA. The adverse air quality impacts from Alternative B were analyzed to be significantly worse than the proposed project at the time. The Draft SEA was updated and recirculated as a Revised Draft SEA in accordance with CEQA Guidelines §15088.5, because the modification considered to be new information that would result in making the existing significant adverse air quality impacts substantially worse, and the Draft SEA did not clearly explain that the Governing Board could choose an alternative or part of an alternative that was less environmentally desirable than the

proposed project. To address this ambiguity, the Revised Draft SEA included language that clearly states that the Governing Board can choose all or part of any of the alternative even if the alternative or portion of the alternative may generate environmental impacts that are significantly worse than those proposed in the project as long as these impacts were disclosed in the CEQA document circulated for public review.

After the release of the Revised Draft Subsequent Environmental Assessment (SEA) for PAR 1168, PAR 1168 was modified to delay the PVC and CPVC primer and ABS welding VOC content limit requirements from January 1, 2005, to July 1, 2005. The delay of the PVC and CPVC primer and ABS welding VOC content limit requirements from January 1, 2005, to July 1, 2005 is considered to be within the scope of the analysis of the environmental impacts resulting from implementing Alternative C. Alternative C would result in 1,024 pounds per day of VOC emissions foregone from PVC and CPVC primer VOC emissions foregone. These VOC emissions are considered foregone, because the existing Rule 1168 VOC content limit requirement of 250 grams per liter for PVC/CPVC primers becomes effective on January 1, 2005. In addition, 0.11 ton (220 pounds) per day of VOC emissions reductions would begin on July 1, 2005 instead of January 1, 2005 as proposed in the Revised Draft SEA. The 0.11 ton (220 pounds) per day of VOC emissions reductions are not considered foregone, because the VOC content limit requirement was apart of the draft proposed project, which had not been presented to and approved by the Governing Board for adoption.

After January 1, 2007, VOC content limit requirements for top and trim adhesives would become effective and the VOC emission reductions foregone would become 0.61 ton (1,206 pounds) per day. These 0.61 ton (1,206 pounds) per day of VOC emissions foregone after January 1, 2007 are the same amount as those expected after January 1, 2007 in the Revised Draft SEA.

While the emissions reductions foregone from the delay of PVC and CPVC primer and ABS welding VOC content limit requirements from January 1, 2005, to July 1, 2005 are a modification to the previously proposed project, these modification are considered to be within the scope of the analysis of the environmental impacts resulting from implementing Alternative C. Alternative C proposed rescinding existing top and trim adhesive, and PVC and CPVC welding and primer VOC content limit requirements effective January 1, 2005. Alternative C does not include the new VOC content limit requirements for PVC and CPVC primers and ABS welding. Alternative C also proposes to rescind the restriction of methylene chloride in cement used for welding of hard sheet plastic. The proposed delay in implementing the new PVC and CPVC primer VOC content limit requirement of 550 grams per liter from January 1, 2005, to July 1, 2005 would only delay implementation for six months, a more environmentally beneficial proposal than keeping the existing interim VOC content limit requirement of 650 grams per liter proposed in Alternative C remained in effect. The Revised Draft SEA clearly presented Alternative C and the adverse environmental impacts from choosing Alternative C. The Revised Draft SEA also clearly states that the Governing Board can choose all or part of any of the alternative even if the alternative or portion of the alternative may generate environmental impacts that are significantly worse than those proposed in the project as long as these impacts were disclosed in the CEQA document circulated for public review. Therefore, the Governing Board may adopt this modification or any other alternative or portion of an

alternative that may generate environmental impacts that are significantly worst than those proposed in the project.

Methylene Chloride Emissions

The existing rule allows the use of methylene chloride in solvent welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications until January 1, 2005. In the FEA, the SCAQMD did not quantify the use of methylene chloride in compounds subject to Rule 1168, nor took any credit for reducing methylene chloride use.

In the July 7, 2002 amendment package, staff recognized that phasing out the use of methylene chloride based solvent cements for hard plastic may be difficult to achieve. There is one primary manufacturer of methylene chloride-based solvent welding products for use in the SCAQMD. The company sales of methylene chloride cements to the acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrication industries is 0.058 tons per day of methylene chloride. A solvent substitution with the exempt compound methyl acetate has replaced another toxic compound trichloroethylene. Trichloroethylene is scheduled for phase-out on January 1, 2005, and unlike methylene chloride, does not have one-year sell-through privileges. The largest manufacturer of solvent welding products has reduced methylene chloride content in its lowest viscosity product by 34 percent, and by 23 percent on its heavier bodied cement. The company has performed tests on its products with reduced methylene chloride and has determined that these reductions are the maximum available reductions they can formulate without compromising the strength of the welded joint, while still maintaining reasonable production dry time.

Efforts by manufacturers of light bodied adhesives over the last two years have resulted in formulations with maximum methylene chloride content of 60 percent by weight. The inferior performance of substitute products compared to methylene chloride makes a complete phase out of methylene chloride in this specific application infeasible. However, the maximum annual use of such solvent welding products for each end user is quite small because a syringe full of solvent welding material can weld many parts.

When considering an exemption from the prohibition of sales of adhesives and sealants containing methylene chloride, as it relates to acrylic, polycarbonate and polyethylene terephalate glycol welding, staff concludes that a limited exemption is appropriate as it protects human health to the maximum extent possible. Since the application of these materials is classified as an area source problem, they are exempt from written permits under Rule 219.

The proposed project would limit the methylene chloride content of these adhesives to a maximum of 60 percent by weight and also proposes to restrict the sales to and use by any one facility to 20 gallons of methylene chloride containing products use for solvent welding of acrylic, polycarbonate and polyethylene terephalate glycol plastics per year, which is estimated to be the current maximum annual usage of the larger fabricators.

Emissions from existing sources using the single facility maximum of 20 gallons per year and methylene chloride concentrations of 60 percent by weight are well within current or proposed health-based standards using a worst case scenario for an adversely impacted receptor.

The individual risks and health indices were established based on the Risk Assessment Procedures for Rules 1401 and 212, as published by the SCAQMD. The procedure may be extended to Rule 1402 evaluations, which sets the basis for AB2588 compliance. The attached table in Appendix B shows the various health risks associated with methylene chloride, as it is used by the plastic fabrication industries at a maximum of 20 gallons per year of 60 percent by weight of methylene chloride solvent welding formulations. The calculations show the maximum cancer risk would occur in West Los Angeles with a value of approximately three in a million residents and two in a million workers. The health indices for acute and chronic exposures (short and long term health exposure indices) at this level are below the 1.0. The significance threshold for carcinogenic risk is 10 in a million and the significance thresholds of 1.0 for both acute and chronic indices. Therefore, the proposed project is not significant for carcinogenic and noncarcinogenic risk.

PROJECT-SPECIFIC MITIGATION: Rule 1168 is being amended because compliant adhesive products for top and trim, PVC welding, CPVC welding, PVC and CPVC primers, and welding products for hard plastics such as acrylic, polycarbonate, and polyethylene terephalate glycol without methylene chloride are currently not available or fully feasible. Consequently, there are no measures available to mitigate the air quality impacts from the proposed project.

REMAINING AIR QUALITY IMPACTS: The air quality analysis concluded that significant adverse air quality impacts could be created by the proposed amendments because the 1.06 tons per day of emission reductions foregone between January 1, 2005 and July 1, 2005; the 0.82 ton (1,640 pounds) per day of emission reductions foregone between ~~January~~ July 1, 2005 and January 1, 2007; and the 0.61 ton (1,220 pounds) per day of emission reductions foregone after January 1, 2007, would exceed the SCAQMD's VOC significance thresholds of 55 pounds per day. As a result, a Statement of Findings and a Statement of Overriding Considerations ~~will be~~ has been prepared for the Governing Board's consideration and approval prior to the public hearings for the proposed amendments.

CUMULATIVE AIR QUALITY IMPACTS: In general, the preceding analysis concluded that air quality impacts from any construction activities would not be significant from implementing the proposed project. The proposed amendments would permanently forego emissions reductions originally anticipated for Rule 1168 in an amount that exceeds the SCAQMD's daily VOC significance threshold. It should be noted, however, that the air quality analysis is a conservative, "worst-case" analysis and the actual impacts may not be as great as estimated here.

The SIP settlement agreement (the Agreement) between the National Resources Defense Council, Coalition for Clean Air, and Communities for a Better Environment and the South Coast Air Quality Management District requires that when the limits under Rule 1168 are relaxed, the Board must find that it is infeasible to implement the measure by 2003. On June 7, 2002, the board authorized a delay of the implementation of technology forcing limits for top and trim adhesives, PVC welding, CPVC welding, associated primers and for other plastic cement welding to January 1, 2005. The emissions delayed were 1.06 tons (2,120 pounds) per day. Furthermore, if a limit is found to be technologically infeasible the SCAQMD may make

up the shortfall through alternative measures within two years after implementation of the 1998 rule. In this case that shortfall has been more than compensated by the September 15, 2000 amendments to Rule 1168, which achieved year 2010 reductions of 8.0 tons per day of VOC. These reductions are well in excess of the required 1.3 tons of VOC reductions required from VOC reduction measures of the Agreement. Therefore, the VOC emissions forgone by this amendment to Rule 1168 of the 1.05 tons per day of emission reductions foregone between January 1, 2005 and July 1, 2005; the ~~0.82~~ 0.81 ton (~~1,640~~ 1,620 pounds) per day between ~~January~~ July 1, 2005 and January 1, 2007; and the 0.61 tons (~~1,220~~ 1,206 pounds) per day of emission reductions foregone after January 1, 2007 do not negatively affect the Agreement.

Further, air quality modeling performed for the 2003 AQMP demonstrated that all state ambient air quality standards except for ozone and PM10 are also expected to be attained by 2010. Therefore, the cumulative adverse air quality impacts from the proposed amendments to Rule 1168 as compared to the total future reduction in the VOC inventory overall as demonstrated the 2003 AQMP are not anticipated to be significant. This determination is consistent with the conclusion in the 2003 AQMP EIR that the overall cumulative air quality impacts from implementing all AQMP control measures are not expected to be significant (SCAQMD, 2003) because of the reduction in the overall VOC emissions inventory.

POTENTIAL ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT

The proposed project has been evaluated and it was determined that the changes proposed to the compliance date for affected adhesives only affects air quality. While all the environmental topics required to be analyzed under CEQA were reviewed to determine if the proposed amendments would create significant impacts, the screening analysis concluded that the following environmental areas would not be significantly adversely affected by PAR 1168: aesthetics, agriculture resources, biological resources, cultural resources, energy, geology/soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation/traffic. These topics were not analyzed in further detail in this environmental assessment, however, a brief discussion of each is provided below.

In general, by rescinding the January 1, 2005 PVC and CPVC cement and primer VOC content limits, delaying the final VOC limit for top and trim adhesive, ~~replacing the January 1, 2005 PVC/CPVC primer VOC content limit of 250 grams per liter with a limit of 550 grams per liter,~~ and replacing the prohibition of methylene chloride in solvent welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrication after January 1, 2005 with concentration and single facility use limits on methylene chloride, these amendments would forego future emission reductions expected that were expected after January 1, 2005. However, these amendments would effectively keep emissions at slightly below existing levels, since the VOC content limits and methylene chloride prohibition have not gone into effect. In addition, the proposed projected would instituting a new ~~reduce the~~ VOC content limit requirements for PVC/CPVC primer ABS cements ~~from 400 to 325 grams per liter~~. Therefore, the proposed project would in practice still lower existing VOC and methylene chloride emissions, although not as much as previously projected in the 2002 FEA, this proposed project has been determined to have little effect on environmental areas other than air quality.

Aesthetics

The proposed changes are not expected to result in substantial adverse effects on any scenic vistas, substantially degrade the existing visual character or quality of any site and its surroundings, or create new sources of substantial light or glare which would adversely affect day or nighttime views of an area. No major changes to existing facilities or stockpiling of additional materials or products outside of existing facilities are expected to result.

Agriculture Resources

The proposed project would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. There are no provisions in the proposed amended rule that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project.

Biological Resources

IV. a) - f): The affected cements and primers are typically used at existing commercial facilities and, therefore, would have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely in the SCAQMD's jurisdiction. A conclusion of the 2003 AQMP EIR was that population growth in the region would have greater adverse effects on plant species and wildlife dispersal or migration corridors in the basin than SCAQMD regulatory activities, (e.g., air quality control measures or regulations). The current and expected future land use development to accommodate population growth is primarily due to economic considerations or local government planning decisions.

There are no provisions in the proposed amended rule that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project. The proposed amendments to Rule 1168 would not affect in any way habitat conservation or natural community conservation plans, agricultural resources or operations, and would not create divisions in any existing communities.

Cultural Resources

There are existing laws in place that are designed to protect and mitigate potential impacts to cultural resources. The application of adhesives and sealants, in the vast majority of situations, would occur after construction has already occurred. Consequently, application of adhesives and sealants has little or no potential to disturb cultural resources. Instead, disturbance of cultural resources would most likely occur during site preparation and would be addressed at that time. Therefore, PAR1168 has no potential to cause a substantial adverse change a historical or archaeological resource, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or disturb any human remains, including those interred outside a formal cemeteries. The proposed amendments to Rule 1168 are, therefore, not anticipated to result in any activities or promote any programs that could have a significant adverse impact on cultural resources in the district.

Energy

Because add-on control equipment is not expected to be used to comply with the provisions of PAR 1168, no additional electricity or natural gas use is expected to be required. The adhesives and sealants affected by the proposed amendments would continue to be applied in generally the same ways they are currently applied. Additionally, PAR 1168 will not substantially increase the number of businesses or amount of equipment in the district since the affected categories of solvent cements or primers are used at existing commercial facilities. An increase in energy consumption from non-renewable resources (e.g., diesel and gasoline) above current levels is not expected because the amount of adhesives and sealants shipped to suppliers and users is not anticipated to change. Further, the continued use of the affected products would not be expected to conflict with adopted energy conservation plans, result in the need for new or substantially altered power or natural gas utility systems, or be out of compliance with existing energy standards.

Geology and Soils

The proposed amendments affect existing commercial facilities that use specific types of adhesives and sealants, and, therefore, will not generate significant new adverse effects on geophysical formations in the district. Additionally, since no add-on control equipment will be used to reduce VOC emissions from the affected adhesive categories, PAR 1168 is not expected to result in additional exposure of people to potential impacts involving seismicity, landslides, mudslides or erosion as no new development is anticipated. The proposed project would not result in significant disruption or overcovering of soil, or changes in topography or surface relief features. The proposal would not result in the erosion of beach sand, or a change in existing siltation rates.

Hazards and Hazardous Materials

It is unlikely that the affected adhesives would be formulated with a non-VOC that is also a HAP because the existing version of Rule 1168 currently precludes the use of specific HAPs (e.g., chloroform, ethylene dichloride, perchloroethylene, and trichloroethylene) in adhesives and sealants, other than the proposed continued methylene chloride use in limited concentration and amounts. The possibility of a product becoming subject to Rule 1401 and Rule 1402 if it is reformulated with a HAP that is not otherwise already prohibited from use by PAR 1168, makes it unlikely that PAR 1168 will cause reformulated affected adhesives to be more toxic than what is currently commercially available for use.

As stated in the Technology Review portion in Section 2, with the exception of top and trim adhesives that meet the final VOC content limit of 250 grams of VOC per liter, adhesives for the other affected categories are available that already meet the project proposed VOC and methylene chloride limits. Components in the existing adhesive categories are presented in Tables 3-3 through 3-6. Top and trim adhesives would need to be reformulated to meet the proposed final VOC content limit of 250 grams per liter by January 1, 2007. It is also possible that some manufactures would need to reformulate some adhesives to meet the project proposed PVC/CPVC primers and ABS welding requirements. To meet the proposed VOC content limits, some PVC and CPVC primers and ABS welding cements manufacturers may need to reformulate with exempt compounds such as acetone. This solvent has potential flammability impacts, but is relatively low in toxicity. The methylene chloride content requirements may also

require reformulation of solvent welders for hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications. It is expected that any reformulation of the top and trim adhesives, PVC and CPVC primers and ABS welding cements and solvent welding for hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications would use the same components that are currently used in existing adhesives as presented in Tables 3-3 to 3-6.

Methyl acetate and acetone are assumed to be the solvents that would be chosen as a replacement for VOCs in top and trim adhesives. Acetone and methyl acetate comprise 82 to 88 percent of top and trim adhesives (Table 3-6). Since the existing amount of acetone and methyl acetate is high, replacing remaining VOCs with additional acetone and methyl acetate would not greatly alter the adverse hazards impact of the top and trim adhesives.

Methyl acetate is assumed to be the solvent that would be chosen as a replacement for methyl ethyl ketone in solvent welding formulations, and small quantities of acetone may replace some of the tetrahydrofuran and cyclohexanone in PVC and CPVC primers and ABS welding solvents. The storage or use of acetone in top and trim adhesives, PVC and CPVC primers and ABS welding cements at sites subject to Rule 1168 would not be expected to result in significant adverse hazard impacts. As shown in Table 4-5, the flammability classifications by the NFPA are the same for acetone, methyl acetate, methyl ethyl ketone, tetrahydrofuran, cyclohexane, hexane and toluene. Cyclohexanone, dimethyl ether and methylene chloride have less flammable ratings. Cyclohexanone is the only conventional solvent that has higher flash point than acetone, and all have similar lower explosive limits.

In addition, the Agency for Toxic Substances and Disease Registry and the EPA prepare and maintain a priority list of hazardous substances that are determined to pose the most significant potential threat to human health (2001 CERCLA[6] Priority List of Hazardous Substances)[7]. These substances are ranked in order of highest priority (i.e., greatest potential threat to human health), according to a combination of their known or suspected toxicity and potential for human exposure. Acetone, despite its flammability potential, is ranked at the lowest priority of 181 when compared to the following other materials that are already prohibited by the current version of Rule 1168: chloroform (rank 11), trichloroethylene (rank 15), perchloroethylene (rank 32), methylene chloride (rank 78), and ethylene dichloride (rank 82).

Further, potential impacts of formulating products with acetone, however, were previously analyzed in Subsequent Environmental Impact Report for PAR 1113 (SCAQMD No. 960626DWS, November, 1996). The conclusions that potential hazard impacts from using this exempt compound would not be significant in that document continue to be valid for the proposed project. Therefore, no new routine transport, use, emission and disposal of hazardous materials will result from the proposed amendments.

[6] The Comprehensive Environmental Response, Compensation, and Liability Act, §104(i).
[7] Agency for Toxic Substances and Disease Registry (ATSDR) and the EPA, 2001. 2001 CERCLA Priority List of Hazardous Substances.

Table 4-5
Chemical Characteristics of Solvents

Conventional Solvents								
Chemical Compound	**M.W.** [a]	**Boiling Point (@760 mmHg, °C)**	**Evap. Rate (@25 °C)**	**Flash point (°C)**	**LEL/UEL** [b] **(% by Vol.)**	**Auto-ignition Temp (°C)**	**Vapor Press (mmHg @ 20 °C)**	**Flammability Classification** [c] **(NFPA)** [d]
Methyl Ethyl Ketone	72.1	79.5	4.78	-7	1.4/11.4	505	90.6	3
Tetrahydrofuran	72.1	65	6.3	-14.4	2/11.8	321	162.2	3
Methylene chloride	84.9	40	14.5	None	13/23	556	435	1
Cyclohexanone	98.2	155.4	0.29	44	1.1/9.4	420	4.33	2
Cyclohexane	84.18	807	5.5	-18	1.3/8.4	260	97.6	3
Dimethyl Ether	46.07	-25	>1	-41	3.4/26.7	350	4450	2
Hexane	86.18	68.7	9	-9	1.1-7.5	225	150	3
Toluene	92.13	110.7	2.24	-95	1.1-7.1	480	3.8	3
Replacement Solvents								
Chemical Compound	**M.W.** [a]	**Boiling Point (@760 mmHg, °C)**	**Evap. Rate (@25 °C)**	**Flash point (°C)**	**LEL/UEL** [b] **(% by Vol.)**	**Auto-ignition Temp (°C)**	**Vapor Press (mmHg @ 20 °C)**	**Flammability Classification** [c] **(NFPA)** [d]
Acetone	58.1	56	7.7	0	2.5/12.8	465	180	3
Methyl Acetate	74.1	-98	5.3	-13	3.1./16	455	216.2	3

Sources: ARB Consumer Product Solvents Database; NIOSH, Online NIOSH Pocket Guide to Chemical Hazards; International Programme on Chemical Safety, International Chemical Safety Cards

[a] Molecular weight

[b] Lower explosive limit/upper explosive limit

[c] Flammability Rating: 0 = Not Combustible; 1 = Combustible if heated; 2 = Caution: Combustible liquid flash point of 100°F to 200°F; 3 = Warning: Flammable liquid flash point below 100°F; 4 = Danger: Flammable gas or extremely flammable liquid

[d] NFPA = National Fire Protection Association

The Uniform Fire Code and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations.

Further, all hazardous materials are expected to be used in compliance with established OSHA or Cal/OSHA regulations and procedures, including providing adequate ventilation, using recommended personal protective equipment and clothing, posting appropriate signs and warnings, and providing adequate worker health and safety training. When taken together, the above regulations provide comprehensive measures to reduce hazards of explosive or otherwise hazardous materials. Compliance with these and other federal, state and local regulations and

proper operation and maintenance of equipment should ensure the potential for explosions or accidental releases of hazardous materials is not significant.

It is anticipated that the current regulatory requirements regarding flammable and otherwise hazardous materials will not need to be amended as a result of the proposed project since, in part; acetone and methyl acetate are already widely used. Based on the preceding information, it is also expected that implementing PAR 1168 is not expected to increase or create any new hazardous emissions which would adversely affect existing/proposed schools.
Elimination of methylene chloride concentrations in welding solvents for hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications would have eliminated the highest toxic component in the welding solvent. Staff believed that rescinding the elimination of methylene chloride in welding solvents for hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications could potentially increase carcinogenic and/or noncarcinogenic risk to significant levels when compared to zero risk from the elimination of methylene chloride. Therefore, staff proposes to limit the concentration of methylene chloride to 60 percent in welding solvents for hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications and to limit the use of welding solvents for hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications with methylene chloride to 20 gallons per facility per year.

Based on Table 3-5 methyl acetate would be the replacement solvent for methylene chloride in sheet plastic welding. Methyl acetate has a higher flash point and flammability rating. By eliminating the prohibition against methylene chloride less methyl acetate would be used, and therefore, the solvents used for sheet plastic welding would be less flammable.

Twenty gallons per year of welding solvents for hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications is below the 10,000 gallon storage threshold for California Accidental Release Prevention (CalARP) Program/EPA Risk Management Program (RMP). It is not believed that facilities would store much more than the twenty gallons usage restriction. Even if a facility stored twice the usage limit on site, the forty gallons is still much less than the CalARP/RMP threshold for reporting. Facilities that are not required to report under the CalARP program are not required to complete an off-site consequence analysis; therefore, any accidental release is not expected to adversely impact any receptors off-site. Therefore, the rescinding of the methylene chloride and establishment of methylene chloride concentration and facility limits for welding solvents with methylene chloride for hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications would not cause a significant increase in hazard materials.

It is expected that facilities that handle more than 55 gallons of hazardous material have listed welding solvents for hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications in their business plans/business emergency plan filed with the local fire department or designated Certified Unified Program Agency (CUPA). Business emergency plans are required for facilities that handle more than 55 gallons of hazardous materials. Since PAR 1168 is expected only to affect existing facilities no new reporting or change to business emergency plans are expected.

Affected products are currently used in controlled environments in limited quantities at commercial facilities so operating practices would not change and no new fire hazards to wildland areas are expected. Further, if there was an accidental condition, the impact would not be expected create a significant hazard to the public, possible nearby public airports or private airstrips or hazardous materials sites compiled pursuant to Government Code §65962.5. Similarly, the proposed amendments would not interfere with airport land use plans, adopted emergency response plans or emergency evacuation plans for the same reasons.

Hydrology and Water Quality

No add-on control equipment is required as a result of the proposed amendments. The effect of the proposed amendments would effectively allow existing use of the affected top and trim adhesives, and cements and primers. Also, it is unlikely that changes proposed in PAR 1168 will cause ABS cements and PVC/CPVC primers to be formulated with a non-VOC that contains HAPs because the current version of Rule 1168 currently precludes the use of specific HAPs (e.g., chloroform, ethylene dichloride, perchloroethylene, and trichloroethylene) in adhesives and sealants, and the proposed rule would limit use of methylene chloride. The possibility of a product becoming subject to Rule 1401 and Rule 1402 if it is reformulated with a HAP that is not otherwise already prohibited from use by PAR 1168, makes it unlikely that PAR 1168 will cause reformulated affected adhesives to be more toxic than what is currently commercially available for use.

The anticipated increase in the use of waterborne adhesives is analogous to the use of waterborne architectural coatings and inks used in graphic art operations since these waterborne products might become part of the wastewater stream only due to clean up activities. The EA prepared for amendments to Rule 1113 determined that the increased use of waterborne architectural coatings would not cause a significant adverse water quality impact. The increased use of water may have the potential to adversely affect both water demand and water quality. These impacts, however, were previously analyzed in a Subsequent Environmental Impact Report for PAR 1113 (SCAQMD No. 960626DWS, November, 1996). Therefore, the conclusions relative to water quality impacts from aqueous-based architectural coatings are applicable to affected adhesives and sealants, and, therefore, would not be significant.

Because the proposed amendments would allow continued use of existing affect top and trim adhesives, cements and primers, additional groundwater supplies would be not depleted, existing drainage patterns and systems would not be altered, and water quality would not be degraded.

The proposed project affects top and trim adhesives, adhesive and sealant operations at existing commercial facilities and, therefore, would not result in placing housing within a 100-year flood hazard area, expose people to new flooding, seiche, tsunami or mudflow conditions.

The proposed project would continue the existing operations for affected adhesives, and, therefore, will not require or result new wastewater or water drainage facilities, reduce water supplies or alter the wastewater provider's existing commitments. It is expected that affected facilities would continue to comply with any applicable requirements of the appropriate

Regional Water Quality Control Board. In conclusion, no new hydrology impacts will result from the proposed amendments.

Land Use and Planning

There are no provisions of the proposed project that would affect land use plans, policies, or regulations because the proposed amendments maintain the existing VOC content limits for PVC and CPVC cements, delay the top and trim adhesives final VOC content limit, replace PVC and CPVC primer future final VOC content limits with a new higher VOC content limit, and lower VOC content limits for ABS cements, which are used in existing commercial facilities. The proposal would allow continued but limited methylene chloride use. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project. The proposed project would not affect in any way habitat conservation or natural community conservation plans, agricultural resources or operations, and would not create divisions in any existing communities. No new development or alterations to existing land designations will occur as a result of the implementation of the proposed amendments. It is not anticipated that continued use of certain adhesive and sealant products at existing commercial facilities would require additional land to continue operations or require rezoning. Therefore, no significant adverse impacts affecting existing or future land uses are expected.

Mineral Resources

There are no provisions of the proposed project that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The proposed amendments would allow continued use of affected adhesives, cements and primers products.

Noise

PAR 1168 would allow continued manufacture and use of existing adhesive and sealant products and continued use of those products by owners/operators of existing commercial facilities. Therefore, no changes in noise levels at affected commercial facilities or in residential areas are anticipated. Users of adhesives and sealants are typically located in existing industrial or commercial areas where noise levels are already relatively high. It is assumed that affected facilities in these areas are subject to and in compliance with existing community noise ordinances and applicable OSHA or Cal/OSHA workplace noise reduction requirements. In addition to noise generated by current operations, noise sources in each area may include nearby freeways, truck traffic to adjacent businesses, and operational noise from adjacent businesses.

Implementing PAR 1168 is not expected to result in significant noise impacts in residential areas. As with industrial or commercial areas, it is assumed that these areas are subject to local community noise standards. Owners/operators of commercial facilities that use adhesives and sealants that are located in residential areas are expected to comply with local community noise standards.

Population and Housing

PAR 1168 allows continued use of existing adhesive and sealant products and, therefore, is not expected to affect in any way population growth or the supply and/or availability of houses. Human population in the SCAQMD's jurisdiction is anticipated to grow regardless of implementing the proposed project. The proposal would not result in the creation of any industry that would induce or inhibit population growth or distribution. Because the proposed project has no effect on population growth or distribution, the proposed rule would not directly or indirectly induce the construction of single- or multiple-family housing units. Accordingly, no significant adverse impacts on human population or housing are expected.

Because the proposed project will not change existing operations at commercial facilities that use the specified adhesive and sealant products, existing housing and associated populations will not be displaced. As a result, there is no anticipated need for construction of replacement housing.

Public Services

The proposed amendments would continue current operations for affected adhesives and sealants used at existing commercial facilities. As a result, PAR 1168 is not expected to increase the need or demand for additional public services such as fire departments, police departments, schools, parks, government, etc, above current levels. Further, the proposal would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times or other performance objectives.

Recreation

As discussed under "Land Use" above, there are no provisions to the proposed project that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments; no land use or planning requirements will be altered by the proposal. The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Solid/Hazardous Waste

It is assumed that existing operations are disposing solid/hazardous waste appropriately and in amounts approved by the appropriate regulatory agencies. Because PAR 1168 would allow continued manufacture and use of affected adhesive products, the proposed project would not substantially increase the amount of solid/hazardous waste in the Basin, but would only affect the composition of the hazardous materials in the waste, since the proposed rescinded limits have not gone into effect. However, the new methylene chloride and VOC content limits established would reduce the actual concentration of hazardous substances in the waste. Since add-on control equipment is not expected to be used to comply with the proposed amendments, no additional increase on the demand for waste disposal utilities is expected.

Based on the above, the proposed amended rule is not expected to significantly increase the volume of solid or hazardous wastes, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations.

Transportation/Traffic

The proposed amendments will not substantially increase the amount of businesses or equipment in the district. The main effect of the proposed amendments will be a continuation of existing commercial operations that use adhesive and sealant products affected by the proposed amendments. There are no provisions in the proposed amendments that would increase existing traffic load, worker commute trips, raw material or finished product transport trips, adversely affect parking, or conflict with adopted policies associated with alternative transportation. The level of service standard, traffic levels or existing emergency accesses are expected to change because the proposed project is maintaining the existing setting.

CONSISTENCY

The Southern California Association of Governments (SCAG) and the SCAQMD have developed, with input from representatives of local government, the industry community, public health agencies, the EPA - Region IX and the CARB, guidance on how to assess consistency within the existing general development planning process in the Basin. Pursuant to the development and adoption of its Regional Comprehensive Plan Guide (RCPG), SCAG has developed an Intergovernmental Review Procedures Handbook (June 1, 1995). The SCAQMD also adopted criteria for assessing consistency with regional plans and the AQMP in its CEQA Air Quality Handbook. The following sections address the consistency between PAR 1168 and relevant regional plans pursuant to the SCAG Handbook and SCAQMD Handbook.

Consistency with Regional Comprehensive Plan and Guide (RCPG) Policies

The RCPG provides the primary reference for SCAG's project review activity. The RCPG serves as a regional framework for decision making for the growth and change that is anticipated during the next 20 years and beyond. The Growth Management Chapter (GMC) of the RCPG contains population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review. It states that the overall goals for the region are to (1) re-invigorate the region's economy, (2) avoid social and economic inequities and the geographical isolation of communities, and (3) maintain the region's quality of life. PAR 1168 does not hinder achieving RCPG policies as explained in the following sections.

Consistency with Growth Management Chapter (GMC) to Improve the Regional Standard of Living

The Growth Management goals are to develop urban forms that enable individuals to spend less income on housing cost, that minimize public and private development costs, and that enable firms to be more competitive, strengthen the regional strategic goal to stimulate the regional economy. Proposed amended Rule 1168 in relation to the GMC would not interfere with the achievement of such goals, nor would it interfere with any powers exercised by local land use agencies. PAR 1168 will not interfere with efforts to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness. PAR 1168 would contribute in a minor way to maintaining economic vitality by allowing affected industries to continue using currently available adhesives until such time as compliant products are available.

Consistency with Growth Management Chapter (GMC) to Provide Social, Political and Cultural Equity

The Growth Management goals to develop urban forms that avoid economic and social polarization promotes the regional strategic goals of minimizing social and geographic disparities and of reaching equity among all segments of society. Consistent with the Growth Management goals, local jurisdictions, employers and service agencies should provide adequate training and retraining of workers, and prepare the labor force to meet the challenges of the regional economy. Growth Management goals also includes encouraging employment development in job-poor localities through support of labor force retraining programs and other economic development measures. Local jurisdictions and other service providers are responsible to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection. Implementing PAR 1168 has no effect on and, therefore, is not expected to interfere with the goals of providing social, political and cultural equity.

Consistency with Growth Management Chapter (GMC) to Improve the Regional Quality of Life

The Growth Management goals also include attaining mobility and clean air goals and developing urban forms that enhance quality of life, accommodate a diversity of life styles, preserve open space and natural resources, are aesthetically pleasing, preserve the character of communities, and enhance the regional strategic goal of maintaining the regional quality of life. The RCPG encourages planned development in locations least likely to cause environmental impacts, as well as supports the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals. While encouraging the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites, the plan discourages development in areas with steep slopes, high fire, flood and seismic hazards, unless complying with special design requirements. Finally, the plan encourages mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and develop emergency response and recovery plans. Although proposed amended Rule 1168 will result in a temporary delay in originally anticipated VOC emission reductions, the cumulative effects of implementing AQMP control measures it promotes improving air quality in the region. Therefore, in relation to the GMC, PAR 1168 is not expected to interfere with attaining these goals.

Consistency with Regional Mobility Element (RMP) and Congestion Management Plan (CMP)

PAR Rule 1168 is consistent with the RMP and CMP since no significant adverse impact to transportation/circulation will result from the delay of VOC emission reductions within the district. Because affected facilities will not increase their handling capacities, there will not be an increase in material transport trips associated with the implementation of PAR 1168. Therefore, PAR 1168 is not expected to significantly adversely affect circulation patterns or congestion management. SCAQMD received a letter[8] from SCAG dated October 25, 2004 that

[8] Letter from Mr. Jeffery M Smith, AICP, Senior Regional Planner at SCAG to Mr. James Koizumi of SCAQMD on the subject of SCAG Clearinghouse No. I20040694 Proposed Amended Rule 1168, October 25, 2004.

states that the version of PAR 1168 (August 30, 2004) circulated with the 2004 Draft SEA is not regionally significant per SCAG Intergovernmental Review (IGR) criteria and CEQA Guidelines §15206.

CHAPTER 5

ALTERNATIVES

Introduction
Alternatives Rejected as Infeasible
Description of Alternatives
Comparison of Alternatives
Conclusion

INTRODUCTION

This ~~Revised Draft~~ Final SEA provides a discussion of alternatives to the proposed project as required by CEQA Guidelines. Alternatives include measures for attaining objectives of the proposed project and provide a means for evaluating the comparative merits of each alternative. A "No Project" alternative must also be evaluated. The range of alternatives must be sufficient to permit a reasoned choice, but need not include every conceivable project alternative. CEQA Guidelines §15126.6(c) specifically notes that the range of alternatives required in a CEQA document is governed by a 'rule of reason' and only necessitates that the CEQA document set forth those alternatives necessary to permit a reasoned choice. The key issue is whether the selection and discussion of alternatives fosters informed decision making and meaningful public participation. A CEQA document need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.

SCAQMD Rule 110 (the rule which implements the SCAQMD's certified regulatory program) does not impose any greater requirements for a discussion of project alternatives in an environmental assessment than is required for an EIR under CEQA.

A 2004 Draft SEA was circulated for public review from October 13, 2004 to November 30, 2004. Because of substantive modification to PAR 1168, the 2004 Draft SEA has been subsequently revised and recirculated as a Revised Draft SEA. ~~This~~ The Revised Draft SEA contained~~s~~ the same alternatives as those proposed in the 2004 Draft SEA; however, the analysis ~~has been~~ was revised to compare the alternatives to the revised proposed project. The proposed project was revised with a two-year delay of the effective date for the top and trim adhesive final VOC content limit of 250 grams of VOC per liter of adhesive.

The proposed project ~~in the 2004 Draft SEA~~ project~~sed~~ ~~0.61 ton (1,220 pounds) of VOC emission reductions per day after January 1, 2005. The revision to the project would delay an additional 0.21 ton (414 pounds) of VOC emission reductions per day over the two year delay. Therefore, the revised project would forego 0.82 ton (1,640 pounds) of VOC emission reductions per day until January 1, 2007; then forego 0.61 ton (1,220 pounds) of VOC emission reductions per day after January 1, 2007.~~ 1.06 tons per day of emission reductions foregone between January 1, 2005 and July 1, 2005; the 0.82 ton (1,640 pounds) per day of emission reductions foregone between July 1, 2005 and January 1, 2007; and the 0.61 ton (1,220 pounds) per day of emission reductions foregone after January 1, 2007

ALTERNATIVES REJECTED AS INFEASIBLE

A CEQA document should identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and explain the reasons underlying the lead agency's determination [CEQA Guidelines §15126.6(c)]. These alternatives and the rationale for rejecting them as infeasible are discussed in the following subsections. No project alternatives were identified and rejected as infeasible.

DESCRIPTION OF ALTERNATIVES

The following proposed alternatives were developed by modifying specific components of the proposed amendments. The rationale for selecting and modifying specific components of the proposed amendments to generate feasible alternatives for the analysis is based on

CEQA's requirement to present "realistic" alternatives; that is, alternatives that can actually be implemented. The Governing Board may choose to adopt any portion or all of any alternative presented below. The Governing Board is able to adopt any portion or all of any of the following alternatives because the impacts of each alternative are fully disclosed to the public and the public has the opportunity to comment on the alternatives and impacts generated by each alternative.

The following four alternatives were developed by identifying and modifying major components of PAR 1168. Specifically, the primary components of the proposed alternatives that have been modified are the interim and final compliance dates and VOC content limit requirements. The alternatives, summarized in Table 5-1 and described in the following subsections, include the following: Alternative A (No Project); Alternative B (Further Delay Compliance Date); and Alternative C (Rescind January 1, 2005 Limits). Unless otherwise specifically noted, all other components of the project alternatives are identical to the components of PAR 1168. The following subsections provide a brief description of each alternative.

Alternative A - No Project Alternative

Alternative A, the No Project Alternative, would mean not amending Rule 1168 and, therefore, maintaining the existing Rule 1168 requirements. The final VOC content requirements of 250 grams per liter for top and trim adhesives, 285 grams per liter for PVC welding, 270 grams per liter for CPVC welding, 250 grams per liter for PVC/CPVC primers, and the elimination of methylene chloride welding solvents for hard acrylic, polycarbonate and polyethylene terephalate glycol plastics by using compliant reformulated products rather than installing control equipment would become effective on January 1, 2005. Users of these affected solvents and adhesives would be limited to only the compliant adhesives or any others that become available. Use of solvents and adhesives that would exceed the above VOC content limits would be prohibited. Because Alternative A would continue to prohibit reformation of adhesives with methylene chloride, it is considered to be the least toxic alternative.

If compliant adhesives are not available, owners/operators would have to discontinue using PVC, CPVC weld solvents and primers or discontinue business.

It is expected that Alternative A would continue to produce a net air quality benefit regarding VOC and methylene chloride reductions for the following reasons. It is anticipated that this alternative would continue the goal of the previous amendments to Rule 1168 and reduce VOC emissions by approximately ~~1,700~~ 2,096[9] pounds per day, either through eliminating the use of noncompliant adhesives or users finding alternative compliant formulations.

[9] Correct number was presented in Table 4-4 of the Revised Draft SEA.

Table 5-1
Project Alternatives

Rule Component	VOC Content Limits (Compliance Dates)			
	PAR 1168	**ALTERNATIVE A** (No Project)	**ALTERNATIVE B** (Further Delay Compliance Dates)	**ALTERNATIVE C** (Rescind January 1, 2005 Limits)
Top & Trim Adhesives	• Interim Limit: 540 g/l (In Effect) • Final Limit: 250 g/l (by 01/01/07)	• Interim Limit: 540 g/l (In Effect) • Final Limit: 250 g/l (by 01/01/05)	• Interim Limit: 540 g/l (In Effect) • Final Limit: 250 g/l (by 01/01/07)	• Interim Limit: 540 g/l (In Effect) • Rescind 01/01/05 250 g/l Final Limit
PVC Welding	• Interim Limit: 510 g/l (In Effect) • Rescind 01/01/05 285 g/l Final Limit	• Interim Limit: 510 g/l (In Effect) • Final Limit: 285 g/l (by 01/01/05)	• Interim Limit: 510 g/l (In Effect) • Final Limit: 285 g/l (by 01/01/07)	• Interim Limit: 510 g/l (In Effect) • Rescind 01/01/05 285 g/l Final Limit
CPVC Welding	• Interim Limit: 490 g/l (In Effect) • Rescind 01/01/05 270 g/l Final Limit	• Interim Limit: 490 g/l (In Effect) • Final Limit: 270 g/l (by 01/01/05)	• Interim Limit: 490 g/l (In Effect) • Final Limit: 270 g/l (by 01/01/07)	• Interim Limit: 490 g/l (In Effect) • Rescind 01/01/05 270 g/l Final Limit
PVC and CPVC Primer	• Interim Limit: 650 g/l (In Effect) • Rescind 01/01/05 250 g/l Final Limit, and • Add Final Limit 550 g/l (by 01/01/~~05~~07)	• Interim Limit: 650 g/ (In Effect) • Final Limit: 250 g/l (by 01/01/05)	• Interim Limit: 650 g/ (In Effect) • Final Limit: 250 g/l (by 01/01/07)	• Interim Limit: 650 g/l ((In Effect) • Rescind 01/01/05 250 g/l Final Limit
ABS Welding	• 400 g/ (In Effect) • Add Final Limit 325 g/l (by 01/01/~~05~~07)	• 400 g/l (In Effect)	• 400 g/l (In Effect)	• 400 g/l (In Effect)
Solvent Welding Hard Acrylic, Polycarbonate, PETG	• No Methylene Chloride Requirement* (In Effect) • Add Methylene Chloride Conc. Limit of 60% by Weight (by 01/01/05) • Add 20 gal/day Limit per Facility on Methylene Chloride Welding Solvent (by 01/01/05)	• No Methylene Chloride Requirement* (In Effect) • Elimination of Methylene Chloride (by 01/01/05)	• No Methylene Chloride Requirement* (In Effect) • Elimination of Methylene Chloride (by 01/01/07)	• No Methylene Chloride Requirement* (In Effect) • Rescind Elimination of Methylene Chloride (by 01/01/05)

*May be restricted by other SCAQMD rules (e.g., Rules 212, 1401)

Alternative B - Further Delay Final Compliance Date

Alternative B would allow affected facilities to continue existing operations and comply with the interim VOC content limits of 540 grams per liter for top and trim, 510 grams per liter for PVC welding, 490 grams per liter for CPVC welding, 600 grams per liter for PVC/CPVC primers, 400 grams per liter for ABS welding and the continued use of methylene chloride weld solvents for hard acrylic, polycarbonate and polyethylene terephalate glycol two additional year, that is until January 1, 2007. Once the final compliance date becomes effective, it would be expected that owners/operators will comply with the final VOC content limits of 250 grams per liter for top and trim, 285 grams per liter for PVC welding, 270 grams per liter for CPVC welding, 250 grams per liter for PVC/CPVC primers, and the elimination of methylene chloride weld solvents for hard acrylic, polycarbonate and polyethylene terephalate glycol plastics by using compliant reformulated products rather than installing control equipment.

Alternative C – Rescind January 1, 2005 Limits

Alternative C would permanently rescind top and trim adhesives; PVC welding, CPVC welding, PVC and CPVC primer, and methylene chloride restrictions in welding formulations used to bond hard acrylic, polycarbonate and polyethylene terephalate glycol plastic fabrications from future VOC compliance limits of 250 grams per liter for top and trim, 285 grams per liter for PVC welding, 270 grams per liter for CPVC welding, 250 grams per liter for PVC/CPVC primers, and the elimination of methylene chloride weld solvents for hard acrylic, polycarbonate and polyethylene terephalate glycol plastics instead of having an interim or final VOC content limits and corresponding compliance dates for these products.

COMPARISON OF THE ALTERNATIVES

The Environmental Checklist (see Chapter 2 of the Initial Study in Appendix B) identified only air quality as an environmental area that could be significantly adversely affected by the proposed project. Further evaluation of potential air quality impacts in Chapter 4 of this ~~Revised Draft~~ Final SEA confirmed that significant adverse project-specific air quality impacts would occur as a result of implementing PAR 1168. Because of the narrow focus of the proposed project, no feasible mitigation measures were identified.

The following section briefly compares the relative potential adverse air quality impacts that may be generated by each project alternative. Potential adverse impacts for the environmental topics are quantified where sufficient data are available. A comparison of the air quality impacts for each project alternative is provided in Table 5-2. No other environmental topics besides air quality were identified that could be adversely affected by implementing any project alternative.

Table 5-2
Comparison of Adverse Air Quality Impacts of the Alternatives
Loss of Anticipated VOC Emission Reductions

Category	**PAR 1168**	**ALTERNATIVE A** (No Project)	**ALTERNATIVE B** (Further Delay Compliance Dates)	**ALTERNATIVE C** (Rescind January 1, 2005 Limits)
Top & Trim Adhesives	Temporary loss in VOC emission reductions of 414 pounds per day continues until 01/01/07	No emission reductions foregone	Temporary loss in VOC emission reductions of 414 pounds per day continues until 01/01/07	Permanent loss in VOC emission reductions of 414 pounds per day
PVC Welding	Permanent loss in VOC emission reductions of ~~504~~ 500* pounds per day	No emission reductions foregone	Temporary loss in VOC emission reductions of ~~504~~ 502* pounds per day continues until 01/01/07	Permanent loss in VOC emission reductions of ~~504~~ 502* pounds per day
CPVC Welding	Permanent loss in VOC emission reductions of ~~158*~~ 160 pounds per day	No emission reductions foregone	Temporary loss in VOC emission reductions of ~~158~~ 156* pounds per day continues until 01/01/07	Permanent loss in VOC emission reductions of ~~158~~ 156* pounds per day
PVC and CPVC Primer	Temporary loss in VOC emission reductions of 1,024 pounds per day continues until 07/01/05. Permanent loss in VOC emission reductions of ~~773~~ 768* pounds per day after 07/01/05	No emission reductions foregone	Temporary loss in VOC emission reductions of ~~1,030~~ 1,024* pounds per day continues until 01/01/07	Permanent loss in VOC emission reductions of ~~1,030~~ 1,024* pounds per day
ABS Welding	Additional Emissions reductions of 220 pounds per day	No change	No change	No change
Solvent Welding Hard Acrylic, Polycarbonate, PETG	Carcinogenic risk of three in a million. Acute and chronic hazard indices less than 1.0.	Elimination of carcinogenic and noncarcinogenic risk from methylene chloride	Acute and chronic hazard indices less than 1.0.until 01/01/07	Carcinogenic risk of four in a million. Acute and chronic hazard indices less than 1.0.
VOC Air Quality Impacts Significant?	Yes	No	Yes Less Than PAR 1168	Yes Greater Than PAR 1168
Methylene Chloride Risk Impacts Significant?	No	No	No	No

* Changed to be consistent with Table 4-4. Difference is a result of rounding. Ton values presented in Table 4-4 are rounded to three significant figures based on the original estimates in the October 1992 Staff Report for PAR 1168. Values in Table 1-2 were not rounded previously

Alternative A - No Project Alternative

Like PAR 1168, Alternative A does not anticipate that owners/operators of affected facilities would have to install control equipment that could generate significant adverse air quality impacts due to construction emissions. Instead, unlike to PAR 1168, there would be no emission reductions foregone with Alternative A because owners/operators of affected facilities would continue existing operations using compliant adhesives if available. If compliant adhesives are not available, owners/operators would have to discontinue using PVC, CPVC welding cements and primers, and hard sheet plastic welding solvents with methylene chloride or discontinue business.

It is expected that Alternative A would continue to produce a net air quality benefit regarding VOC and methylene chloride reductions since the final 2002 FEA limit requirements would take affect. It is anticipated that this alternative would continue the goal of the previous amendments to Rule 1168 by reducing VOC emissions by approximately ~~1,700~~ 2,096[10] pounds per day, either through eliminating the use of noncompliant adhesives or users finding alternative compliant formulations. In addition, methylene chloride use in weld solvents for hard sheet plastic would be prohibited.

Alternative A Conclusion

Since Alternative A is the only alternative without any emission reductions foregone, this alternative is the least toxic and environmentally superior alternative. This alternative is not consistent with project objectives since as stated in the Technology Review of Section 2 of this document, there are no adhesives that can meet the VOC content limit requirements for PVC and CPVC welding solvents required to meet IAPMO, ASTM and NSF standards, and prevent the use of products needed to weld hard plastics such as acrylic, polycarbonate and polyethylene terephalate plastic sheeting.

Alternative B - Further Delay Compliance Date

Similar to PAR 1168, it is not expected that Alternative B will require installation of air pollution control equipment. As a result, it is not anticipated that owners/operators of affected facilities would have to install control equipment that could generate construction emissions. Instead, affected facilities are anticipated to continue existing operations and comply with the interim VOC content limits of 540 grams per liter for top and trim, 510 grams per liter for PVC welding, 490 grams per liter for CPVC welding, 600 grams per liter for PVC/CPVC primers, 400 grams per liter for ABS welding and the continued use of methylene chloride weld solvents for hard acrylic, polycarbonate and polyethylene terephalate glycol two additional years, that is until January 1, 2007. Once the final compliance date becomes effective, it would be expected that owners/operators will comply with the final VOC content limits of 250 grams per liter for top and trim, 285 grams per liter for PVC welding, 270 grams per liter for CPVC welding, 250 grams per liter for PVC/CPVC primers, and the elimination of methylene chloride weld solvents for hard acrylic, polycarbonate and polyethylene terephalate glycol plastics by using compliant reformulated products rather than installing control equipment.

[10] Correct number was presented in Table 4-4 of the Revised Draft SEA.

Alternative B would extend the final compliance date for top and trim adhesives, PVC and CPVC welding, PVC and CPVC primers, and the elimination of methylene chloride welding solvents for hard acrylic, polycarbonate and polyethylene terephalate glycol plastics from the expiration date of January 1, 2005, as proposed in PAR 1168, to January 1, 2007. This means that originally anticipated VOC and methylene chloride emission reductions for these adhesive categories would be delayed two additional years, to January 1, 2007. Total VOC emission reductions delayed would be approximately 1.05 tons (~~1,700~~ 2,096 pounds)[11] per day. Therefore, it is expected that Alternative B would generate significant adverse VOC air quality impacts during operation.

It is estimated that the carcinogenic risk associated with delaying the compliance date for the elimination of methylene chloride from welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications would be four in a million over seventy years. Acute and chronic noncarcinogenic hazard indices are below 1.0. The significance criterion for carcinogenic risk is ten in a million over seventy years. The significance criteria for noncarcinogenic risk are hazard indices above 1.0. Therefore, carcinogenic risk from methylene chloride would be below 10 in one million over seventy years, and exposure to methylene chloride from this alternative would only continue for two additional years until it would be prohibited on January 1, 2007, no significant methylene chloride carcinogenic risk is expected. Because acute and chronic hazard indices are below 1.0, the project is not expected to generate significant noncarcinogenic risk.

Alternative B Conclusion

This alternative is not consistent with project objectives since no compliant products are available to field test; therefore, it is unlikely compliant products could be found and tested within the near future. Therefore, further delaying the final compliance dates would not result in providing industry with compliant products.

This alternative would generate the same VOC emissions as rescinding the affective adhesive limits for two years (Alternative B). Alternative A is superior to Alternative B because it does not forgo any emission reductions. The proposed project is superior in daily adverse VOC and methylene chloride impacts since, Alternative B includes emission reductions forgone from top and trim adhesives and does not include new VOC content limits for PVC and CPVC primers, ABS weld solvent, and methylene chloride concentration and facility limits for bonding of hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications. However, the emissions forgone under Alternative B would occur for two years, if compliant adhesives could be found by January 1, 2007. If compliant adhesives are not found by January 1, 2007, this alternative would not meet the project objective of allowing facilities to use the lowest VOC and methylene chloride content limits that can meet industry performance requirements.

Alternative C – Rescind January 1, 2005 Limits

Similar to PAR 1168, it is not expected that Alternative C will require installation of air pollution control equipment. As a result, no construction-related air quality impacts are expected to occur if this alternative is implemented. Instead, affected facilities for top and

[11] Correct number was presented in Table 4-4 of the Revised Draft SEA.

trim applications are anticipated to continue existing operations using the current adhesives or previously prohibited high-VOC adhesives (which would be permanently excluded from further compliance requirements) rather than installing control equipment.

Alternative C would rescind the January 1, 2005 VOC content limits for PVC and CPVC weld solvents and primers. It is estimated that 0.85 tons (1,700 pounds) per day of VOC emission reduction would be foregone by the elimination of the January 1, 2005 VOC content limits for PVC and CPVC weld solvents and primers (Table 4-2). In addition, Alternative C would permanently exempt top and trim adhesives from VOC compliance limits altogether. This means that originally anticipated 0.2 tons (414 pounds) per day VOC emission reductions from the 2003 Final SEA for this adhesives category would be permanently foregone. Therefore, altogether Alternative C would permanently forgo approximately one ton (~~2,100~~ 2,096 pounds) of VOC emission reductions, which is greater than the VOC emission reductions foregone proposed by PAR 1168.

It is estimated that the carcinogenic risk associated with rescinding the elimination of methylene chloride from welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications would be four in a million over seventy years. Acute and chronic noncarcinogenic hazard indices would be below 1.0. The significance criterion for carcinogenic risk is ten in a million over seventy years of exposure. The significance criteria for noncarcinogenic risk are hazard indices above 1.0. Therefore, carcinogenic risk from methylene chloride is below 10 in one million, so no significant methylene chloride carcinogenic risk is expected. Because acute and chronic hazard indices are below 1.0, Alternative C is not expected to generate significant noncarcinogenic risk.

Alternative C Conclusion

Alternative C would completely rescind the VOC content limits now established in the existing rule for top and trim adhesives, PVC and CPVC welding, PVC and CPVC primers. Alternative C would also rescind the prohibition of methylene chloride used in weld solvents for hard acrylic, polycarbonate and polyethylene terephalate glycol plastics. Like the proposed project this alternative would forgo emission reductions for top and trim adhesives, PVC and CPVC welding, PVC and CPVC primers, and methylene chloride emission reductions from hard sheet plastic weld solvents. Alternative C would not include new VOC content limits for PVC and CPVC primers, ABS welding cements, and concentration and facility limits for methylene chloride used to weld hard plastics. Alternative A is superior to Alternative C because it does not forego any emission reductions. Unlike Alternative B which would limit the emissions foregone for two years, Alternative C would permanently forego emission reductions from these adhesives. Therefore, this alternative would be the most toxic and least environmentally superior alternative.

CONCLUSION

SCAQMD's policy document Environmental Justice Program Enhancements for FY 2002-03, Enhancement II-1 recommends that all SCAQMD CEQA assessments include a feasible project alternative with the lowest air toxics emissions. In other words, for any major equipment or process type under the scope of the proposed project that creates a significant environmental impact, at least one alternative, where feasible, shall be considered from a "least harmful" perspective with regard to hazardous air emissions. Because the 2002

amendments to Rule 1168 included a prohibition that eliminated the use of specific HAPs (e.g., chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene) from adhesive and sealant applications, the lowest air toxics alternative is Alternative A, the No Project Alternative.

CEQA Guidelines §15126.6(e)(2) states in part that if the environmentally superior alternative is the "No Project" alternative, the CEQA document shall also identify an environmentally superior alternative among the other alternatives. Alternative A is the environmentally superior alternative as it provides the least air quality impact because of its potential for continuing to achieve the anticipated VOC emission reductions resulting from compliance with the current version of Rule 1168. Since Alternative A, the no project alternative is the environmentally superior alternative, other than the proposed project Alternative B would be the next environmentally superior alternative. However, as presented above Alternative B would only remain the next environmentally superior alternative as long as the delayed VOC and methylene chloride limits could be met by January 1, 2007. Since no viable compliant adhesives were found, it is unlikely that facilities could comply with the VOC limit restrictions and methylene chloride prohibited by January 1, 2007. In addition the potential increase of risk from methylene chloride would be higher in Alternative B than in the proposed project which would add concentration and facility limits.

The proposed project is preferred over Alternative A and Alternative B because it achieves the primary project goal of allowing facilities to use the lowest VOC and methylene chloride content limits that can meet industry performance requirements. Imposing the current final VOC content limit requirements as proposed for Alternative A for top and trim adhesive, PVC welding, CPVC welding, PVC and CPVC primers, and prohibiting the use of methylene chloride in hard sheet plastic weld solvents could possibly eliminate these products from the market, leaving end-users with no suitable replacement alternatives. Because no compliant adhesives and sealants that achieve performance and industrial standards have been identified, Alternative B would only delay the implementation date of existing final VOC content limit requirements and methylene chloride prohibition requirement.

The proposed project is considered to provide the best balance between delayed emission reductions, health risk, and allowing additional time to formulate and manufacture compliant adhesive products for the affected adhesive categories with the desired performance characteristics and, therefore, is preferred over Alternatives A, B, and C. However, while the proposed project provides the best balance between emission reductions delayed, health risk, and adhesive performance, the Governing Board may choose to adopt any of the alternatives in whole or in part in place of the proposed project, based on other considerations in addition to environmental concerns such a compliance costs, effects on future employment (jobs lost, for example), etc.

PAR 1168 delays the new VOC content limit requirements for PVC/CPVC primers and ABS welding from the January 1, 2005 date proposed in the Revised Draft SEA to July 1, 2005. Because of this delay the 250 gram per liter VOC content limit requirement for PVC/CPVC primers would be rescinded, and the 650 gram per liter VOC content limit

requirement would be extended to July 1, 2005. On July 1, 2005 the new 550 gram per liter VOC content limit requirement would become effective. In addition, PAR 1168 would delay the new ABS welding VOC content limit requirement of 325 grams per liter from January 1, 2005 to July 1, 2005. These modifications are within the scope of the analysis of the environmental impacts resulting form implementing Alternative C.

Alternative C proposes to permanently rescind the existing January 1, 2005 effective VOC content limit requirements. Alternative C would forego 1.05 ton (2,096 pounds) of VOC emission reductions. Alternative C does not include the new VOC content limit requirements for PVC/CPVC primers and ABS welding. PAR 1168 would only delay the PVC/CPVC primers and ABS welding VOC content limit requirements from January 1, 2005 to July 1, 2005

PAR 1168 as modified would generate the following emissions foregone: On January 1, 2005, 1.05 ton (2,096 pounds) of VOC emission reductions per day would be foregone. On July 1, 2005, the amount of VOC emission reductions foregone would be 0.81 ton (2,096 pounds) per day, when the new VOC content limit requirements for PVC/CPVC primers and ABS welding become effective. On January 1, 2007, the VOC emission reductions foregone would be 0.61 ton (1,206 pounds) per day, when the final VOC content limit requirement for top and trim adhesives becomes effective.

Therefore, PAR 1168 as modified consists of a mixture of project proposed in the Revised Draft SEA and Alternative C. Like the project proposed in the Revised Draft SEA, PAR 1168 would forego 0.81 ton (2,096 pounds) per day between July 1, 2005 and January 1, 2007, when the new VOC content limit requirements for PVC/CPVC primers and ABS welding become effective. In addition, PAR 1168 would forego 0.61 ton (1,206 pounds) of VOC emission reductions per day after July 1, 2007, when the final VOC content limit requirement for top and trim adhesives becomes effective. However, like Alternative C, between January 1, 2005 and July 1, 2005, PAR 1168 would forgo 1.05 ton (2,096 pounds) of VOC emission reductions per day.

CHAPTER 6

OTHER CEQA TOPICS

Relationship Between Short-Term Uses and Long-Term Productivity
Significant Irreversible Environmental Changes
Potential Growth-Inducing Impacts

SIGNIFICANT ENVRIONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

Rule 1168 is being amended primarily because PVC and CPVC welding cements and primers and non-methylene chloride welding solvents for hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrication do not meet industry standards for bond strength and other performance standards. To date, the results of the technology assessment for these adhesives show that industry is experiencing difficulties with the workability and performance of the low-VOC products. Consequently, there are no measures available to mitigate significant adverse air quality impacts from the proposed project. If the amendments to PAR 1168 are adopted as proposed, the expected to result in VOC emission reductions foregone would total approximately 1.05 ton (2,096 pounds) of VOC per day between January 1, 2005 and July 1, 2005, ~~0.82~~ 0.81 ton (2,096 pounds) of VOC per day between ~~January~~ July 1, 2005 and January 1, 2007, then approximately 0.61 tons (~~1,220~~ 1,206 pounds) of VOC per day after January 1, 2007. The VOC emission reductions foregone would exceed the SCAQMD's VOC significance threshold of 55 pounds per day. Therefore, PAR 1168, if implemented, has the potential to generate unavoidable significant adverse air quality impacts.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines §§15126(c) and 15126.2(c) require an environmental analysis to consider "any significant irreversible environmental changes which would be involved if the proposed action should be implemented." In the NOP/IS and Final EA for the 2002 amendments to Rule 1168, documents upon which PAR 1168 is based, air quality was the only environmental area identified as potentially adversely affected by the proposed project.

The proposed changes to PAR 1168 would generate 1.05 tons (2,096 pounds) of VOC emissions foregone per day between January 1, 2005 to July 1, 2005, ~~0.82~~ 0.81 ton (2,096 pounds) of VOC emissions foregone per day between ~~January~~ July 1, 2005 and January 1, 2007, then approximately 0.61 tons (~~1,220~~ 1,206 pounds) per day of VOC emission reductions foregone after January 1, 2007; and reduce methylene chloride use to acceptable carcinogenic and noncarcinogenic risk. As stated earlier emissions reductions foregone would not increase existing emissions, but prevent future emissions reductions. The new VOC content limits would reduce the emissions forgone, and therefore after January 1, 2005 would reduce existing emissions by ~~480~~ 476 pounds (~~2,120~~ 2,096 – ~~1,640~~ 1,620) of VOC per day. The proposed limits of methylene chloride concentration and single facility usage would keep existing acceptable carcinogenic and noncarcinogenic risk to below significance. As a result, PAR 1168 would provide human health benefits by reducing population exposures to existing VOC emissions and methylene chloride concentrations, but not in the same quantities as proposed in the 2002 FEA.

As can be seen by the information presented in this ~~Revised Draft~~ Final SEA, the proposed project would not result in irreversible environmental changes or irretrievable commitment of resources.

POTENTIAL GROWTH-INDUCING IMPACTS

CEQA Guidelines §§15126(d) and 15126.2(d) require an environmental analysis to consider the "growth-inducing impact of the proposed action." Implementing PAR 1168 will not, by

itself, have any direct or indirect growth-inducing impacts on businesses in the SCAQMD's jurisdiction because it is not expected to foster economic or population growth or the construction of additional housing and primarily affects existing adhesive formulation companies.

APPENDIX A

PROPOSED AMENDED RULE 1168

In order to save space and avoid repetition, please refer to the final version of the proposed amended Rule 1168 located elsewhere in the rule package.

Version "PAR 1168" (November 4, 2004) of the proposed amended rule was circulated with the Revised Draft Subsequent Environmental Assessment that was released on December 5, 2004 for a 45-day public review and comment period ending December 21, 2004.

Original hard copies of the Revised Draft SEA, which include the version "PAR 1168" (November 4, 2004) of the proposed amended rule, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX B

ASSUMPTIONS AND CALCULATIONS

VOC Emissions and Emission Reduction Assumptions and Calculations

The VOC emissions and reductions in Table 4-2 of the 2002 FEA lists the baseline emissions and reductions as estimated from actual data collected in 1998; however, the 2002 FEA baseline was actually based on the October 1992 Staff Report for Proposed Amended Rule 1168 ~~1993 emissions inventory used in the April 11, 1997 Final Staff Report for Proposed Amended Rule 1168 – Control of Volatile Organic Compound Emissions from Adhesive Applications~~, which was also reported in the April 11, 1997 Final Staff Report for Proposed Amended Rule 1168 – Control of Volatile Organic Compound Emissions from Adhesive Applications and associated Final Supplemental Environmental Assessment (SEA) dated March 1997. The 2002 FEA baseline inventory was developed by applying a two percent per year growth factor, a 75 percent solids content factor and various VOC content limits established between 1993 and 1998. The solids factor was included because at that time staff assumed that solvent usage would increase with an increase of solids when sprayed. VOC emissions and reductions foregone from the January 1, 2005 VOC content limits presented in the FEA were assumed to be the same as those presented in the April 11, 1997 Final SEA, which were estimated for January 1, 2003, since the emission reductions foregone represents the difference between the emissions before and after the VOC content limit requirements.

The VOC emissions and emissions reductions utilized in the 2004 Draft SEA were taken from the Preliminary Draft Staff Report for Proposed Amended Rule 1168 – Adhesive and Sealant Applications dated June 2004. The VOC emissions and reductions presented in the 2004 Preliminary Draft Staff Report were developed from the same 1993 emissions inventory used in the FEA, but solids contact factor was removed, because staff realized that hand applications of cement do not necessarily reflect an increase in solvent usage as assumed in spray applications. However, the emissions reductions foregone are determined by the difference between the emissions based on the proposed VOC content limits and emissions based on existing VOC content limits, which remains the same with or without the solids content factor; therefore, the amount of emission reductions are the same regardless of whether the solids content factor is used. Additionally, the VOC emissions and emission reductions presented in the 2004 Preliminary Draft Staff Report were also projected to January 1, 2005.

~~The 2004 Draft SEA VOC emissions reductions foregone from rescinding the VOC content limits for PVC and CPVC welding and primers were estimated to be 0.85 tons (1,700 pounds) per day. The VOC emissions reductions foregone with the proposed VOC content limits for PVC and CPVC primers and ABS welding were estimated to be 0.61 tons (1,220 pounds)of VOC per day. Table A-1 presents the VOC emissions and emissions reductions presented in the 2004 Preliminary Draft Staff Report.~~

~~After the 2004 Draft SEA was released, staff found that the January 1, 2005 implementation of the final 250 grams VOC content per liter standard for top and trim adhesives is not feasible, because of difficulties with open time, reposition ability, and high temperature and stain resistance. Therefore, staff proposes to delay the final VOC content standard for top and trim adhesives from January 1, 2005, to January 1, 2007. Therefore, the 2004 Draft SEA was rescinded and this a Revised Draft SEA was prepared. The 2003 Final SEA estimated that 0.21 ton (414 pounds) of VOC emission reductions per day were delayed by postponing the 250 grams VOC content per liter standard for top and trim adhesives to January 1, 2005. The delay in the final VOC content standard for top and trim adhesives from January 1, 2005, to January 1, 2007 continue the delay of that 0.21 ton (414 pounds) of VOC emission reductions per day until~~

~~January 1, 2007. After January 1, 2007, the final VOC content standard would become effective and the 0.21 ton (414 pounds) of VOC emission reductions would occur. The emission reductions delayed are presented in Table 4-2.~~

Table A-1 presents the VOC emissions and emissions reductions presented in the 2004 Staff Report. The emission reductions delayed from top and trim adhesives from the 2003 Final SEA are presented in Table 4-2.

~~Therefore,~~ ~~b~~Between January 1, 2005 and July 1, 2007, the 1.05 tons (2,096 pounds) of VOC emission reductions foregone are as sum of the of the 0.60 ton (1,206 pounds) of VOC per day emission reductions foregone from the top and trim adhesive, and PVC and CPVC welding and primers. Between ~~January~~ July 1, 2005, to January 1, 2007, the proposed 0.82 ton (1,640 pounds) of VOC per day of total emission reductions forgone is the sum of the ~~0.61~~ 0.60 ton (~~1,220~~ 1,206 pounds) of VOC per day emission reductions foregone from the PVC and CPVC welding ~~and primers~~ minus the emission reductions gained by new PVC and CPVC primers and ABS welding VOC content limits; and the 0.21 ton (414 pounds) of VOC emission reductions per day of emission reductions delayed by extending the interim VOC content limit for top and trim adhesives. After January 1, 2007 when the final VOC content limit for top and trim becomes effective, the total emission reductions foregone would be ~~0.61~~ 0.60 ton (~~1,220~~ 1,206 pounds) of VOC per day. VOC emission reductions foregone exceed the VOC significance threshold of 55 tons per day. Therefore, the project is significant for VOC emissions during operation. A summary of the emissions foregone is presented in Table B-3.

Methylene Chloride Risk Assessment Assumptions and Calculations

The revision to the top and trim adhesive VOC content limit effective date does not affect the methylene chloride analyses that were developed for the previously prepared 2004 Draft SEA. Methylene chloride risk from rescinding the prohibition of methylene chloride in welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications and establishing concentration restrictions of 60 percent by weight and limiting the purchase of all methylene chloride welding products to 20 gallons per calendar year at a single facility were estimated and presented in the 2004 Preliminary Draft Staff Report. The risk was determined by estimating amount of methylene chloride emissions a facility would emit if it used 20 gallons of hard plastic sheet welding projects with 60 percent methylene chloride by weight.

Emissions, lb/year = usage, gal/year x density, lb/gal x methylene chloride weight fraction
Emissions, lb/year = 20 gal/year x 11 lb/gal x 0.60
Emissions, lb/year = 132 lb/yr of methylene chloride
Emissions, tons/year = (132 lb/yr)/(2,000 lb/ton) = 0.7 ton/yr

A Tier II risk assessment based on the SCAQMD Risk Assessment Procedures for Rules 1401 and 222, version 2.0 and Attachment K for facilities emitting 0.7 ton per year of methylene chloride for each source receptor area in the Basin. The maximum carcinogenic risk was estimated to be three in a million for residential receptors (Table B-4) in the West Los Angeles source receptor area. The noncarcinogenic hazard indices were estimated to be less than 1.0 (Table B-4). The significance threshold for carcinogenic risk is ten in a million. The significance threshold for noncarcinogenic risk is a hazard index greater than 1.0. Therefore, the proposed project is not significant for risk from methylene chloride.

Based on the 2004 Preliminary Draft Staff Report the maximum methylene chloride content in the existing welding formulations used to bond hard acrylic, polycarbonate, and polyethylene terephalate glycol plastic fabrications is 91 percent. Staff assumed that a maximum of 20 gallons per year are currently used at any single facility per year. Based on this the maximum carcinogenic risk from methylene chloride emitted from any single facility is four in a million (Table B-5) and the noncarcinogenic acute and hazard indices are below 1.0 (Table B-6).

TABLE B-1
Estimated VOC Emissions Inventories and Emissions Foregone

	VOC content limits				VOC Emissions Inventory				Emissions Foregone	
Plastic Welding Type	**1/1/1993 VOC content limits (gram/liter)**	**Current VOC content limits (gram/liter)**	**1/1/2005 FEA VOC content limits (gram/liter)**	**Proposed VOC content limits (gram/liter)**	**1/1/1993 Emission Inventory (ton/day)**	**Current Emission Inventory (ton/day)**	**Future Emissions Inventory Based on 1/1/2005 FEA VOC content limits (ton/day)**	**Future Emission Inventory Based on 1/1/2005 Proposed Limits (ton/day)**	**Emissions Foregone Based on Rescinding FEA VOC content limits (ton/day)**	**Emissions Foregone Based on Proposed VOC content limits (ton/day)**
PVC	850	510	285	510	0.569	0.569	0.318	-0.251	-0.251	0.569
CPVC	850	490	270	490	0.174	0.174	0.096	-0.078	-0.078	0.174
ABS	850	400	400	325	0.588	0.478	0.588	0.000	0.110	0.588
Primer	650	650	250	550	0.832	0.704	0.320	-0.512	-0.384	0.832
Totals					2.163	1.925	1.322	-0.840	-0.600	2.163

~~1/1/1993 Emissions Inventory - Table 2, SCAQMD, Final Staff Report for Proposed Amended Rule 1168 - Control of Volatile Organic Compound Emissions from Adhesive Applications, April 11, 1997.~~

SCAQMD, Staff Report for Proposed Amended Rule 1168, SCAQMD No: 921021MG, Attachment 1 VOC Emission Inventory For Affected Industries, October 1992.

Current emission inventory, ton/day = 1/1/1993 Emissions Inventory x (Current VOC content limits/1/1/93 VOC content limits) x ((100% + 2%)/100%)$^{\text{no of years}}$

Future emission inventory based on 1/1/2005 FEA VOC content limits, ton/day = Current emissions inventory x ((Proposed VOC content limits)/(Current VOC content limits))
Future emission inventory based on 1/1/2005 Proposed VOC content limits, ton/day = Current emissions inventory x ((1/1/2005 FEA VOC content limits)/(Current VOC content limits))

Emissions foregone based rescinding FEA VOC limits (tons/day) = Future Emission Inventory Based on 1/1/2005 Proposed Limits (ton/day) - Current Emission Inventory (ton/day)
Emissions foregone based proposed VOC limits (tons/day) = Future Emission Inventory Based on 1/1/2005 Proposed Limits (ton/day) - Future Emissions Inventory Based on 1/1/2005 FEA VOC Limits (ton/day)

Table B-2
Estimated Top and Trim Adhesives Inventory and VOC Emission Reductions Delayed

Adhesive Type Based on Range of VOC Content	**VOC Content of Material** less water/exempt compounds		**VOC Content of Material, As Applied** less water/exempt compounds		**Adhesive Coverage**	**Estimated Annual Adhesive Inventory Based on Coverage** [a]	**Estimated VOC Emissions** [b]	
	grams /liter	lb/gal	grams /liter	lb/gal	sq. ft./gal	gal/yr	lb/day	ton/day
Original VOC Limit (Pre-June 2002)	616	5.14	616	5.14	237	85,000	1,196	0.598
Interim VOC Limit (Current limit post-June 2002)	540	4.50	340	2.83	309	65,194	506	0.253
Final VOC Limit (To be in effect January 1, 2007)	250	2.08	125	1.04	625	32,232	92	0.046
Total Estimated VOC Emission Reductions Delayed [c]							**414**	**0.21**

[a] To calculate the estimated annual adhesives usage based on adhesive coverage data, multiply the 'Original VOC Limit' adhesive inventory by a ratio of the high VOC adhesive coverage to the coverage for the material in question. For example, the calculation of the estimated annual adhesive usage for a compliant adhesive is as follows:
85,000 gal/yr x (237 sq. ft./gal / 625 sq. ft./gal) = 65,194 gal/yr of compliant adhesive

[b] To calculate the 'Estimated VOC Emissions', multiply the 'VOC Content of Material, As Applied' by the 'Estimated Annual Adhesive Inventory Based on Coverage' and adjust for days and tons, as applicable. For example, for the 'Original VOC Limit' adhesive category, the calculation of estimated VOC emissions is as follows:
5.14 lb VOC/gal x 85,000 gal/yr x 1 yr/365 days = 1,196 lb VOC/day x (1 ton/2000 lb) = 0.598 tons VOC / day

[c] To calculate the 'Total Estimated VOC Emission Reductions Delayed', subtract the estimated VOC emissions for Final VOC Limit adhesives from the estimated VOC emissions for Interim VOC adhesives as follows: 506 lb VOC/day - 92 lb VOC/day = 414 lb VOC/day of emissions reductions delayed

~~Table B-3~~
~~Summary of Daily VOC Emissions Foregone~~

~~Plastic Welding Type~~	~~Emissions Foregone in Tons per Day~~			~~Emissions Foregone in Pounds per Day~~		
	~~Emissions Foregone Based on Rescinding FEA VOC Content Limits (ton/day)~~	~~Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2005 (ton/day)~~	~~Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2007 (ton/day)~~	~~Emissions Foregone Based on Rescinding FEA VOC Content Limits (lb/day)~~	~~Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2005 (lb/day)~~	~~Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2007 (lb/day)~~
~~Top and Trim Adhesives~~	~~0.21~~	~~0.21~~	~~0~~	~~420~~	~~420~~	~~0~~
~~PVC Welding~~	~~0.25~~	~~0.25~~	~~0.25~~	~~500~~	~~500~~	~~500~~
~~CPVC Welding~~	~~0.08~~	~~0.08~~	~~0.08~~	~~160~~	~~160~~	~~160~~
~~ABS Welding~~	~~0~~	~~0.11~~	~~0.11~~	~~0~~	~~220~~	~~220~~
~~PVC and CPVC Primer~~	~~0.52~~	~~0.39~~	~~0.39~~	~~1,040~~	~~780~~	~~780~~
~~**Totals**~~	~~**1.06**~~	~~**0.82**~~	~~**0.61**~~	~~**2,120**~~	~~**1,640**~~	~~**1,220**~~
~~**Significance Threshold**~~	~~**0.028**~~	~~**0.028**~~	~~**0.028**~~	~~**55**~~	~~**55**~~	~~**55**~~
~~**Significant**~~	~~**Yes**~~	~~**Yes**~~	~~**Yes**~~	~~**Yes**~~	~~**Yes**~~	~~**Yes**~~

Table B-3
Summary of Daily VOC Emissions Foregone

	Emissions Foregone in Tons per Day[a]				Emissions Foregone in Pounds per Day[b]			
Plastic Welding Type	**Emissions Foregone Based on Rescinding FEA VOC Content Limits** (ton/day)	**Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2005** (ton/day)	**Emissions Foregone Based on Proposed VOC Content Limits after July 1, 2005** (ton/day)	**Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2007** (ton/day)	**Emissions Foregone Based on Rescinding FEA VOC Content Limits** (lb/day)	**Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2005** (lb/day)	**Emissions Foregone Based on Proposed VOC Content Limits after July 1, 2005** (lb/day)	**Emissions Foregone Based on Proposed VOC Content Limits after January 1, 2007** (lb/day)
Top and Trim Adhesives	-0.207	-0.207	-0.207	0	-414	-414	-414	0
PVC Welding	-0.251	-0.251	-0.251	-0.251	-502	-502	-502	-502
CPVC Welding	-0.078	-0.078	-0.078	-0.078	-156	-156	-156	-156
ABS Welding	0.000	0.000	0.110	0.110	0	0	220	220
PVC and CPVC Primer	-0.512	-0.512	-0.384	-0.384	-1,024	-1,024	-768	-768
Totals	**-1.048**	**-1.048**	**-0.810**	**-0.603**	**-2,096**	**-2,096**	**-1,620**	**-1,206**
Significance Threshold	-	-	-	-	55	55	55	55
Significant	-	-	-	-	**Yes**	**Yes**	**Yes**	**Yes**

a) Emissions foregone in tons per day were estimated in Tables 4-2 and 4-3.
b) Emissions foregone in tons per day were calculated by multiplying emissions foregone in tons per day by 2,000 pounds per ton.

TABLE B-4
Carcinogenic Risk from Methylene Chloride Welding of Acrylic, Polycarbonate and Polyethylene Terephalate Glycol Plastic Fabrications with Proposed Concentration and Facility Limits

Air Monitoring Station	Q (ton/yr)	X/Q at 25 ft ($\mu g/m^3$)/ (ton/yr)	MET	U $(\mu g/m^3)^{-1}$	MP Worst Case	LEA Resi-dential	LEA Worker	MICR Resi-dental at 25ft	MICR Worker at 25 ft
Anaheim	0.07	41.45	0.86	1.00E-06	1	1	0.66	2.35E-06	1.55E-06
Azusa	0.07	41.45	0.80	1.00E-06	1	1	0.66	2.19E-06	1.44E-06
Banning	0.07	41.45	0.54	1.00E-06	1	1	0.66	1.48E-06	9.75E-07
Burbank	0.07	41.45	0.60	1.00E-06	1	1	0.66	1.64E-06	1.08E-06
Canoga Park	0.07	41.45	0.68	1.00E-06	1	1	0.66	1.86E-06	1.23E-06
Compton	0.07	41.45	0.63	1.00E-06	1	1	0.66	1.72E-06	1.14E-06
Costa Mesa	0.07	41.45	0.71	1.00E-06	1	1	0.66	1.94E-06	1.28E-06
Downtown L.A.	0.07	41.45	0.51	1.00E-06	1	1	0.66	1.40E-06	9.21E-07
El Toro	0.07	41.45	0.68	1.00E-06	1	1	0.66	1.86E-06	1.23E-06
Fontana	0.07	41.45	0.80	1.00E-06	1	1	0.66	2.19E-06	1.44E-06
Indio	0.07	41.45	0.72	1.00E-06	1	1	0.66	1.97E-06	1.30E-06
King Harbor	0.07	41.45	0.63	1.00E-06	1	1	0.66	1.72E-06	1.14E-06
La Canada	0.07	41.45	0.81	1.00E-06	1	1	0.66	2.22E-06	1.46E-06
Lancaster	0.07	41.45	0.49	1.00E-06	1	1	0.66	1.34E-06	8.85E-07
Lennox	0.07	41.45	0.66	1.00E-06	1	1	0.66	1.81E-06	1.19E-06
Long Beach	0.07	41.45	0.58	1.00E-06	1	1	0.66	1.59E-06	1.05E-06
Los Alamitos	0.07	41.45	0.64	1.00E-06	1	1	0.66	1.75E-06	1.16E-06
Lynwood	0.07	41.45	0.63	1.00E-06	1	1	0.66	1.72E-06	1.14E-06
Malibu	0.07	41.45	0.88	1.00E-06	1	1	0.66	2.41E-06	1.59E-06
Newhall	0.07	41.45	0.53	1.00E-06	1	1	0.66	1.45E-06	9.57E-07
Norco	0.07	41.45	0.75	1.00E-06	1	1	0.66	2.05E-06	1.35E-06
Palm Springs	0.07	41.45	0.60	1.00E-06	1	1	0.66	1.64E-06	1.08E-06
Pasadena	0.07	41.45	0.75	1.00E-06	1	1	0.66	2.05E-06	1.35E-06
Pico Rivera	0.07	41.45	0.70	1.00E-06	1	1	0.66	1.91E-06	1.26E-06
Pomona	0.07	41.45	0.91	1.00E-06	1	1	0.66	2.49E-06	1.64E-06
Redlands	0.07	41.45	0.90	1.00E-06	1	1	0.66	2.46E-06	1.63E-06
Reseda	0.07	41.45	0.71	1.00E-06	1	1	0.66	1.94E-06	1.28E-06
Riverside	0.07	41.45	0.82	1.00E-06	1	1	0.66	2.24E-06	1.48E-06
Santa Ana Cyn	0.07	41.45	0.92	1.00E-06	1	1	0.66	2.52E-06	1.66E-06
Upland	0.07	41.45	0.62	1.00E-06	1	1	0.66	1.70E-06	1.12E-06
Vernon	0.07	41.45	0.55	1.00E-06	1	1	0.66	1.50E-06	9.93E-07
Walnut	0.07	41.45	0.63	1.00E-06	1	1	0.66	1.72E-06	1.14E-06
West L.A.	0.07	41.45	1.00	1.00E-06	1	1	0.66	2.74E-06	1.81E-06
Whittier	0.07	41.45	0.66	1.00E-06	1	1	0.66	1.81E-06	1.19E-06
Maximum								2.74E-06	1.81E-06

Maximum Individual Cancer Risk (MICR)

Maximum emission rate (Q)

Dispersion factor (X/Q) - Table 4A, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Meterological correction factor (MET) - Table 4B, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Unit Risk Factor (U) - Table 8A, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Multi-pathway factor (MP) - Table 8, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Lifetime exposure adjustment factor (LEA) - Table 9, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

MICR = Q, ton/yr x (X/Q) x MET x U x MP x LEA

TABLE B-5
Noncarcinogenic Risk from Methylene Chloride Welding of Acrylic, Polycarbonate and Polyethylene Terephalate Glycol Plastic Fabrications with Proposed Concentration and Facility Limits

Air Monitoring Station	Q (ton/yr)	Q_{hr} (lb/hr)	X/Q at 25 ft ($\mu g/m^3$)/ (ton/yr)	X/Q_{hr} at 25 ft ($\mu g/m^3$)/ (lb/hr)	MET	MP (Worst Case)	Chronic REL	Acute REL	HIA	HIC
Anaheim	0.07	6.00	41.45	1,532	0.86	1	400	14,000	0.66	0.0059
Azusa	0.07	6.00	41.45	1,532	0.80	1	400	14,000	0.66	0.0055
Banning	0.07	6.00	41.45	1,532	0.54	1	400	14,000	0.66	0.0037
Burbank	0.07	6.00	41.45	1,532	0.60	1	400	14,000	0.66	0.0041
Canoga Park	0.07	6.00	41.45	1,532	0.68	1	400	14,000	0.66	0.0047
Compton	0.07	6.00	41.45	1,532	0.63	1	400	14,000	0.66	0.0043
Costa Mesa	0.07	6.00	41.45	1,532	0.71	1	400	14,000	0.66	0.0049
Downtown L.A.	0.07	6.00	41.45	1,532	0.51	1	400	14,000	0.66	0.0035
El Toro	0.07	6.00	41.45	1,532	0.68	1	400	14,000	0.66	0.0047
Fontana	0.07	6.00	41.45	1,532	0.80	1	400	14,000	0.66	0.0055
Indio	0.07	6.00	41.45	1,532	0.72	1	400	14,000	0.66	0.0049
King Harbor	0.07	6.00	41.45	1,532	0.63	1	400	14,000	0.66	0.0043
La Canada	0.07	6.00	41.45	1,532	0.81	1	400	14,000	0.66	0.0055
Lancaster	0.07	6.00	41.45	1,532	0.49	1	400	14,000	0.66	0.0034
Lennox	0.07	6.00	41.45	1,532	0.66	1	400	14,000	0.66	0.0045
Long Beach	0.07	6.00	41.45	1,532	0.58	1	400	14,000	0.66	0.0040
Los Alamitos	0.07	6.00	41.45	1,532	0.64	1	400	14,000	0.66	0.0044
Lynwood	0.07	6.00	41.45	1,532	0.63	1	400	14,000	0.66	0.0043
Malibu	0.07	6.00	41.45	1,532	0.88	1	400	14,000	0.66	0.0060
Newhall	0.07	6.00	41.45	1,532	0.53	1	400	14,000	0.66	0.0036
Norco	0.07	6.00	41.45	1,532	0.75	1	400	14,000	0.66	0.0051
Palm Springs	0.07	6.00	41.45	1,532	0.60	1	400	14,000	0.66	0.0041
Pasadena	0.07	6.00	41.45	1,532	0.75	1	400	14,000	0.66	0.0051
Pico Rivera	0.07	6.00	41.45	1,532	0.70	1	400	14,000	0.66	0.0048
Pomona	0.07	6.00	41.45	1,532	0.91	1	400	14,000	0.66	0.0062
Redlands	0.07	6.00	41.45	1,532	0.90	1	400	14,000	0.66	0.0062
Reseda	0.07	6.00	41.45	1,532	0.71	1	400	14,000	0.66	0.0049
Riverside	0.07	6.00	41.45	1,532	0.82	1	400	14,000	0.66	0.0056
Santa Ana Cyn	0.07	6.00	41.45	1,532	0.92	1	400	14,000	0.66	0.0063
Upland	0.07	6.00	41.45	1,532	0.62	1	400	14,000	0.66	0.0042
Vernon	0.07	6.00	41.45	1,532	0.55	1	400	14,000	0.66	0.0038
Walnut	0.07	6.00	41.45	1,532	0.63	1	400	14,000	0.66	0.0043
West L.A.	0.07	6.00	41.45	1,532	1.00	1	400	14,000	0.66	0.0068
Whittier	0.07	6.00	41.45	1,532	0.66	1	400	14,000	0.66	0.0045

Maximum emission rate (Q) in tons per year

Maximum emission rate (Q_{hr}) in pounds per hour

Dispersion factor (X/Q) - Table 4A, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Dispersion factor $(X/Q)_{hr}$ - Table 7, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.1

Meterological correction factor (MET) - Table 4B, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Multi-pathway factor (MP) - Table 8, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Reference exposure level - Table 8A, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Acute hazard index (HIA)

Chronic hazard index (HIC)

Total $HIA_{target\ organ} = \{\Sigma[Qhr \times (X/Q)_{hr}]/Acute\ REL\}_{target\ organ}$

Total $HIC_{target\ organ} = \{\ \Sigma[Qyr \times (X/Q) \times MET \times MP]/Chronic\ REL\}_{target\ organ}$

TABLE B-6
Existing Carcinogenic Risk from Methylene Chloride Welding of Acrylic, Polycarbonate and Polyethylene Terephalate Glycol Plastic Fabrications

Air Monitoring Station	Q (ton/yr)	X/Q at 25 ft ($\mu g/m^3$)/ (ton/yr)	MET	U $(\mu g/m^3)^{-1}$	MP Worst Case	LEA Resi-dential	LEA Worker	MICR Resi-dental at 25ft	MICR Worker at 25 ft
Anaheim	0.10	41.45	0.86	1.00E-06	1	1	0.66	3.56E-06	2.35E-06
Azusa	0.10	41.45	0.80	1.00E-06	1	1	0.66	3.32E-06	2.19E-06
Banning	0.10	41.45	0.54	1.00E-06	1	1	0.66	2.24E-06	1.48E-06
Burbank	0.10	41.45	0.60	1.00E-06	1	1	0.66	2.49E-06	1.64E-06
Canoga Park	0.10	41.45	0.68	1.00E-06	1	1	0.66	2.82E-06	1.86E-06
Compton	0.10	41.45	0.63	1.00E-06	1	1	0.66	2.61E-06	1.72E-06
Costa Mesa	0.10	41.45	0.71	1.00E-06	1	1	0.66	2.94E-06	1.94E-06
Downtown L.A.	0.10	41.45	0.51	1.00E-06	1	1	0.66	2.11E-06	1.40E-06
El Toro	0.10	41.45	0.68	1.00E-06	1	1	0.66	2.82E-06	1.86E-06
Fontana	0.10	41.45	0.80	1.00E-06	1	1	0.66	3.32E-06	2.19E-06
Indio	0.10	41.45	0.72	1.00E-06	1	1	0.66	2.98E-06	1.97E-06
King Harbor	0.10	41.45	0.63	1.00E-06	1	1	0.66	2.61E-06	1.72E-06
La Canada	0.10	41.45	0.81	1.00E-06	1	1	0.66	3.36E-06	2.22E-06
Lancaster	0.10	41.45	0.49	1.00E-06	1	1	0.66	2.03E-06	1.34E-06
Lennox	0.10	41.45	0.66	1.00E-06	1	1	0.66	2.74E-06	1.81E-06
Long Beach	0.10	41.45	0.58	1.00E-06	1	1	0.66	2.40E-06	1.59E-06
Los Alamitos	0.10	41.45	0.64	1.00E-06	1	1	0.66	2.65E-06	1.75E-06
Lynwood	0.10	41.45	0.63	1.00E-06	1	1	0.66	2.61E-06	1.72E-06
Malibu	0.10	41.45	0.88	1.00E-06	1	1	0.66	3.65E-06	2.41E-06
Newhall	0.10	41.45	0.53	1.00E-06	1	1	0.66	2.20E-06	1.45E-06
Norco	0.10	41.45	0.75	1.00E-06	1	1	0.66	3.11E-06	2.05E-06
Palm Springs	0.10	41.45	0.60	1.00E-06	1	1	0.66	2.49E-06	1.64E-06
Pasadena	0.10	41.45	0.75	1.00E-06	1	1	0.66	3.11E-06	2.05E-06
Pico Rivera	0.10	41.45	0.70	1.00E-06	1	1	0.66	2.90E-06	1.91E-06
Pomona	0.10	41.45	0.91	1.00E-06	1	1	0.66	3.77E-06	2.49E-06
Redlands	0.10	41.45	0.90	1.00E-06	1	1	0.66	3.73E-06	2.46E-06
Reseda	0.10	41.45	0.71	1.00E-06	1	1	0.66	2.94E-06	1.94E-06
Riverside	0.10	41.45	0.82	1.00E-06	1	1	0.66	3.40E-06	2.24E-06
Santa Ana Cyn	0.10	41.45	0.92	1.00E-06	1	1	0.66	3.81E-06	2.52E-06
Upland	0.10	41.45	0.62	1.00E-06	1	1	0.66	2.57E-06	1.70E-06
Vernon	0.10	41.45	0.55	1.00E-06	1	1	0.66	2.28E-06	1.50E-06
Walnut	0.10	41.45	0.63	1.00E-06	1	1	0.66	2.61E-06	1.72E-06
West L.A.	0.10	41.45	1.00	1.00E-06	1	1	0.66	4.15E-06	2.74E-06
Whittier	0.10	41.45	0.66	1.00E-06	1	1	0.66	2.74E-06	1.81E-06
Total								4.15E-06	2.74E-06

Maximum Individual Cancer Risk (MICR)

Maximum emission rate (Q)

Dispersion factor (X/Q) - Table 4A, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Meteorological correction factor (MET) - Table 4B, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Unit Risk Factor (U) - Table 8A, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Multi-pathway factor (MP) - Table 8, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Lifetime exposure adjustment factor (LEA) - Table 9, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

MICR = Q, ton/yr x (X/Q) x MET x U x MP x LEA

TABLE B-7
Existing NonCarcinogenic Risk from Methylene Chloride Welding of Acrylic, Polycarbonate and Polyethylene Terephalate Glycol Plastic Fabrications

Air Monitoring Station	Q (ton/yr)	Q_{hr} (lb/hr)	X/Q at 25 ft ($\mu g/m^3$)/ (ton/yr)	X/Q_{hr} at 25 ft ($\mu g/m^3$)/ (lb/hr)	MET	MP (Worst Case)	Chronic REL	Acute REL	HIA	HIC
Anaheim	0.10	6.00	41.45	1,532	0.86	1	400	14,000	0.66	0.0089
Azusa	0.10	6.00	41.45	1,532	0.80	1	400	14,000	0.66	0.0083
Banning	0.10	6.00	41.45	1,532	0.54	1	400	14,000	0.66	0.0056
Burbank	0.10	6.00	41.45	1,532	0.60	1	400	14,000	0.66	0.0062
Canoga Park	0.10	6.00	41.45	1,532	0.68	1	400	14,000	0.66	0.0070
Compton	0.10	6.00	41.45	1,532	0.63	1	400	14,000	0.66	0.0065
Costa Mesa	0.10	6.00	41.45	1,532	0.71	1	400	14,000	0.66	0.0074
Downtown L.A.	0.10	6.00	41.45	1,532	0.51	1	400	14,000	0.66	0.0053
El Toro	0.10	6.00	41.45	1,532	0.68	1	400	14,000	0.66	0.0070
Fontana	0.10	6.00	41.45	1,532	0.80	1	400	14,000	0.66	0.0083
Indio	0.10	6.00	41.45	1,532	0.72	1	400	14,000	0.66	0.0075
King Harbor	0.10	6.00	41.45	1,532	0.63	1	400	14,000	0.66	0.0065
La Canada	0.10	6.00	41.45	1,532	0.81	1	400	14,000	0.66	0.0084
Lancaster	0.10	6.00	41.45	1,532	0.49	1	400	14,000	0.66	0.0051
Lennox	0.10	6.00	41.45	1,532	0.66	1	400	14,000	0.66	0.0068
Long Beach	0.10	6.00	41.45	1,532	0.58	1	400	14,000	0.66	0.0060
Los Alamitos	0.10	6.00	41.45	1,532	0.64	1	400	14,000	0.66	0.0066
Lynwood	0.10	6.00	41.45	1,532	0.63	1	400	14,000	0.66	0.0065
Malibu	0.10	6.00	41.45	1,532	0.88	1	400	14,000	0.66	0.0091
Newhall	0.10	6.00	41.45	1,532	0.53	1	400	14,000	0.66	0.0055
Norco	0.10	6.00	41.45	1,532	0.75	1	400	14,000	0.66	0.0078
Palm Springs	0.10	6.00	41.45	1,532	0.60	1	400	14,000	0.66	0.0062
Pasadena	0.10	6.00	41.45	1,532	0.75	1	400	14,000	0.66	0.0078
Pico Rivera	0.10	6.00	41.45	1,532	0.70	1	400	14,000	0.66	0.0073
Pomona	0.10	6.00	41.45	1,532	0.91	1	400	14,000	0.66	0.0094
Redlands	0.10	6.00	41.45	1,532	0.90	1	400	14,000	0.66	0.0093
Reseda	0.10	6.00	41.45	1,532	0.71	1	400	14,000	0.66	0.0074
Riverside	0.10	6.00	41.45	1,532	0.82	1	400	14,000	0.66	0.0085
Santa Ana Cyn	0.10	6.00	41.45	1,532	0.92	1	400	14,000	0.66	0.0095
Upland	0.10	6.00	41.45	1,532	0.62	1	400	14,000	0.66	0.0064
Vernon	0.10	6.00	41.45	1,532	0.55	1	400	14,000	0.66	0.0057
Walnut	0.10	6.00	41.45	1,532	0.63	1	400	14,000	0.66	0.0065
West L.A.	0.10	6.00	41.45	1,532	1.00	1	400	14,000	0.66	0.0104
Whittier	0.10	6.00	41.45	1,532	0.66	1	400	14,000	0.66	0.0068

Maximum emission rate (Q) in tons per year

Maximum emission rate (Q_{hr}) in pounds per hour

Dispersion factor (X/Q) - Table 4A, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Dispersion factor $(X/Q)_{hr}$ - Table 7, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.1

Meteorological correction factor (MET) - Table 4B, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Multi-pathway factor (MP) - Table 8, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Reference exposure level - Table 8A, SCAQMD Risk Assessment Procedures for Rules 1401 & 212, Version 6.0

Acute hazard index (HIA)

Chronic hazard index (HIC)

Total $HIA_{target\ organ} = \{ \Sigma[Qhr \times (X/Q)_{hr}]/Acute\ REL\}_{target\ organ}$

Total $HIC_{target\ organ} = \{ \Sigma[Qyr \times (X/Q) \times MET \times MP]/Chronic\ REL\}_{target\ organ}$

APPENDIX C

COMMENT LETTER ON THE DRAFT SUBSEQUENT ENVIRONMENTAL ASSESSMENT AND RESPONSE TO THE COMMENT LETTER

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October 25, 2004

Mr. James Koizumi
SCAQMD
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

RE: SCAG Clearinghouse No. I20040694 Proposed Amended Rule 1168

Dear Mr. Koizumi:

Thank you for submitting the **Proposed Amended Rule 1168** for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **Proposed Amended Rule 1168**, and have determined that the proposed Project is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206). Therefore, the proposed Project does not warrant comments at this time. Should there be a change in the scope of the proposed Project, we would appreciate the opportunity to review and comment at that time.

A description of the proposed Project was published in SCAG's **October 1-15, 2004** Intergovernmental Review Clearinghouse Report for public for review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this Project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1867. Thank you.

Sincerely,

JEFFREY M. SMITH, AICP
Senior Regional Planner
Intergovernmental Review

Responses to Comment Letter
Southern California Association of Governments
October 25, 2004

Response
SCAQMD agrees with the SCAG that PAR 1168 is not regionally significant.